[May 1977]

THE UNIVERSITY RECORD

University
of
Florida
Undergraduate Catalog

1977 • 1978

Now that you have the University of Florida's undergraduate catalog, you might like help in using it. According to Webster, a catalog is a complete enumeration of things arranged systematically with descriptive detail. But to find exactly what you want to know it helps to know the system.

This undergraduate catalog is organized into three main sections. The first explains the University administration as it relates to the student; the second presents a description of the academic units, and the third section lists the course descriptions. Other information is provided including a calendar of critical dates at the front and a listing of faculty and administrators in the back. An index is placed at the end of the catalog.

In addition to general information about the University as a whole, the first section has specific details about admission, expenses, housing, academic regulations and student life.

A student at the University registers each quarter in one of 16 colleges or schools. The second section of the catalog explains the program in each of these academic units. Major fields of study, degrees offered, requirements for admission or graduation for this unit and other pertinent information are located here.

The second section should help the student determine an academic program for a bachelor's degree. Here you learn about the individual departments of the colleges, something of the philosophy on which the curriculum is based and the career or competence toward which this training is aimed.

The third section lists the actual courses and their descriptions. This part is set up alphabetically by departments of instruction. It tells you which undergraduate courses will be taught in each of the four quarters. This section is partially in a code (course prefix and number) which identifies the statewide course number and the University of Florida designation.

For example, ZOO 2011C (ZY 202) is shorthand for the course Principles of Animal Biology. Following the title are the letters F, W, S, SS meaning it is offered in each of the quarters—Fall, Winter, Spring and Summer session. The course carries five credit hours. It lists as prerequisites ZY 201 (Introductory Zoology Laboratory) and CY 201 or 211 (General Chemistry), meaning they must be completed satisfactorily before registration for ZY 202. A separate schedule of courses is printed each quarter and used in conjunction with the catalog during registration.

FOR ANSWERS TO THESE QUESTIONS:

"Could I be admitted?"	For admission requirements, refer to Admission section in general section and to your specific college section.
"How much does it cost?"	See Expenses in general section.
"Where can I live?"	Check Housing section.
"When do classes start? What about vacations?"	See University calendar and critical dates in front section.
"What programs are available? What courses can I take?"	Look at descriptions of colleges in second section. Check requirements for specific courses.
"Where can I find out about grades, probation and suspension?"	See academic regulations, general section.
"What could I major in and what degrees are offered?"	See college descriptions.
"What about financial aid?"	See student affairs in general section.
"What is special about the University of Florida?"	See Florida's First University page ix.

University Archives
George A. Smathers Libraries
University of Florida

THE UNIVERSITY RECORD of the UNIVERSITY OF FLORIDA

The Undergraduate Catalog has been adopted as a rule of the University pursuant to the provisions of Chapter 120 of the Florida Statute. Addenda to the University Record Series, if any, are available upon request to the Office of the Registrar.

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This public document was promulgated at a total cost of $40,030.92 or .572 per copy to inform students, parents, University faculty, and other interested persons of degree programs and curricula offerings at the University of Florida.

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CALENDAR for 1977

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(CRITICAL DATES)

FALL TERM 1977

Registration	September 20-22
Classes Begin	September 26
Classes End	December 9
Final Examinations	December 12-17
Grades Due (Graduating Seniors)	December 15
Commencement	December 17
Grades Due (All)	December 19

WINTER TERM 1978

Registration	January 3
Classes Begin	January 4
Classes End	March 10
Final Examinations	March 13-18
Grades Due (Graduating Seniors)	March 16
Commencement	March 18
Grades Due (All)	March 20

SPRING TERM 1978

Registration	March 24
Classes Begin	March 27
Classes End	June 2
Final Examinations	June 5-10
Grades Due (Graduating Seniors)	June 8
Commencement	June 10
Grades Due (All)	June 12

SUMMER TERM 1978

Registration	June 16
Classes Begin	June 19
Classes End	August 18
Final Examinations	August 21-26
Grades Due (Graduating Seniors)	August 24
Commencement	August 26
Grades Due (All)	August 28

UNIVERSITY OF FLORIDA CALENDAR, 1977-78 FALL QUARTER

1977

March 1, Tuesday, 4:00 p.m.
Last day for beginning Freshmen students to file application for admission for the Fall Quarter. Students unable to meet this deadline may apply on a space available basis.

July 1, Friday, 4:00 p.m.
Last day for filing application at the Office of the Registrar to change college or division for the Fall Quarter.

July 29, Friday, 4:00 p.m.
Last day for those not previously in attendance or those previously in attendance at the University of Florida (except beginning Freshmen) to file application for admission for the Fall Quarter. Students unable to meet this deadline may apply on a space available basis.

September 2, Friday, 4:00 p.m.
Last day for clearing admissions for those whose applications were filed by above deadline. All credentials must have been received and college changes approved. Those who apply or clear after this date will be assigned late registration appointments.

September 20-22, Tuesday-Thursday
Orientation and registration according to appointments assigned. No one permitted to start registration on Thursday, September 22, after 3:00 p.m.

September 23, Friday
Drop/Add begins. Late registration begins. All students registering late subject to $25 late fee.

September 26, Monday—Classes begin.

UNIVERSITY OF FLORIDA CALENDAR, 1977-78

September 30, Friday, 4:00 p.m.
Last day for completing late registration for Fall Quarter. No one permitted to start registration on Friday, September 30, after 3:00 p.m.
Last day for Drop/Add and for changing sections. Students liable for fees for all hours for which registered.
Last day student may withdraw from the University and receive any refund of fees unless withdrawal is for medical or military reasons.
Last day for filing S-U option card in Registrar's Office.

October 3, Monday, 2:30 p.m.
Last day for paying fees without being subject to late fee of $25. Students must have correctly assessed fees and paid fees in full by this date.
Last day for filing address change in Registrar's Office, if not living in residence halls, in order to receive fee statement at new address.

October 14, Friday, 4:00 p.m.
Last day for filing degree application at the Registrar's Office for a degree to be conferred at the end of the Fall Quarter.
Last day to apply with the Registrar for an Associate of Arts certificate to be awarded at the end of the quarter.
Last day for removing grades of I or X received in the preceding term. If not made up grade becomes E.
Last day for filing application at the Office of the Registrar to change college or division for the next quarter.

November 11, Friday—Veterans Day—Classes suspended.

November 18-19, Friday-Saturday—Homecoming—All classes suspended Friday.

November 23, Wednesday, 4:00 p.m.
Last day for withdrawing from the University without receiving failing grades in all courses.

November 24-26, Thursday-Saturday—Thanksgiving—Classes suspended 10:00 p.m. November 23.

November 28, Monday, 8:00 a.m.—Classes resume.

December 2, Friday, 10:00 p.m.
No examinations, class quizzes or progress tests may be given after this date and prior to the final examination period.

December 9, Friday—All classes end.

December 12, Monday
Final examinations begin. Assembly examinations begin Saturday, December 10.

December 15, Thursday, 10:00 a.m.—Degree candidates' grades due.

December 16, Friday, 3:00 p.m.
Report of colleges on degree candidates due in the Office of the Registrar.

December 17, Saturday—Commencement Convocation.

December 19, Monday, 9:00 a.m.
All grades for Fall Quarter due in the Office of the Registrar.

UNIVERSITY OF FLORIDA CALENDAR, 1977-78 WINTER QUARTER

1977

November 10, Thursday, 4:00 p.m.

Last day for those not previously in attendance or those previously in attendance at the University of Florida to file application for admission for the Winter Quarter. Students unable to meet this deadline may apply on a space available basis.

December 9, Friday, 4:00 p.m.

Last day for clearing admissions for those whose applications were filed by above deadline. All credentials must have been received and college changes approved. Those who apply or clear after this date will be assigned late registration appointments.

1978

January 3, Tuesday

Registration according to appointments assigned. No one permitted to start registration on Tuesday, January 3, after 3:00 p.m.

January 4, Wednesday

Classes begin. Drop/Add begins. Late registration begins. All students registering late subject to $25 late fee.

January 10, Tuesday, 4:00 p.m.

Last day for completing late registration for Winter Quarter. No one permitted to start registration on Tuesday, January 10, after 3:00 p.m.

Last day for Drop/Add and for changing sections. Students liable for fees for all hours for which registered.

Last day student may withdraw from the University and receive any refund of fees unless withdrawal is for medical or military reasons.

Last day for filing S-U option card in Registrar's Office.

January 11, Wednesday, 2:30 p.m.

Last day for paying fees without being subject to late fee of $25. Students must have correctly assessed fees and paid fees in full by this date.

Last day for filing address change in the Registrar's Office, if not living in residence halls, in order to receive fee statement at new address.

January 20, Friday, 4:00 p.m.

Last day for filing application at the Office of the Registrar to change college or division for the next quarter.

Last day for filing degree application at the Registrar's Office for a degree to be conferred at the end of the Winter Quarter.

Last day to apply with the Registrar for an Associate of Arts certificate to be awarded at the end of the quarter.

January 27, Friday, 4:00 p.m.

Last day for removing grades of I or X received in the preceding term. If not made up grade becomes E.

February 24, Friday, 4:00 p.m.

Last day for withdrawing from the University without receiving failing grades in all courses.

March 3, Friday, 10:00 p.m.

No examinations, class quizzes or progress tests may be given after this date and prior to the final examination period.

March 10, Friday—All classes end.

March 13, Monday

Final examinations begin. Assembly examinations begin Saturday, March 11.

March 16, Thursday, 10:00 a.m.—Degree candidates' grades due.

March 17, Friday, 3:00 p.m.

Report of colleges on degree candidates due in the Office of the Registrar.

March 18, Saturday—Commencement Convocation.

March 20, Monday, 9:00 a.m.

All grades for Winter Quarter due in the Office of the Registrar.

UNIVERSITY OF FLORIDA CALENDAR, 1977-78 SPRING QUARTER

1978

February 17, Friday, 4:00 p.m.

Last day for those not previously in attendance or those previously in attendance at the University of Florida to file application for admission for the Spring Quarter. Students unable to meet this deadline may apply on a space available basis.

March 10, Friday, 4:00 p.m.

Last day for clearing admissions for those whose applications were filed by the above deadline. All credentials must have been received and college changes approved. Those who apply or clear after this date will be assigned late registration appointments.

March 24, Friday

Registration according to appointments assigned. No one permitted to start registration on Friday, March 24, after 3:00 p.m.

March 27, Monday

Classes begin. Drop/Add begins. Late registration begins. All students registering late subject to $25 late fee.

March 31, Friday, 4:00 p.m.

Last day for completing late registration for Spring Quarter. No one permitted to start registration on Friday, March 31, after 3:00 p.m.

Last day for Drop/Add and for changing sections. Students liable for fees for all hours for which registered.

Last day student may withdraw from the University and receive any refund of fees unless withdrawal is for medical or military reasons.

Last day for filing S-U option card in Registrar's Office.

April 3, Monday, 2:30 p.m.

Last day for paying fees without being subject to late fee of $25. Student must have correctly assessed fees and paid fees in full by this date.

Last day for filing address change in the Registrar's Office, if not living in residence halls, in order to receive fee statement at new address.

April 14, Friday, 4:00 p.m.

Last day for filing application at the Office of the Registrar to change college or division for the next quarter.

Last day for filing degree application at the Registrar's Office for a degree to be conferred at the end of the Spring Quarter.

Last day to apply with the Registrar for an Associate of Arts certificate to be awarded at the end of the quarter.

April 21, Friday, 4:00 p.m.

Last day for removing grades of I or X received in preceding term. If not made up grade becomes E.

May 19, Friday, 4:00 p.m.

Last day for withdrawing from the University without receiving failing grades in all courses.

May 26, Friday, 10:00 p.m.

No examinations, class quizzes or progress tests may be given after this date and prior to the final examination period.

May 29, Monday—Memorial Day—Classes suspended.

June 2, Friday—All classes end.

June 5, Monday

Final examinations begin. Assembly examinations begin Saturday, June 3.

June 8, Thursday, 10:00 a.m.—Degree candidates' grades due.

June 9, Friday, 3:00 p.m.
Final report of colleges on degree candidates due in the Office of the Registrar.

June 10, Saturday—Commencement Convocation.

June 12, Monday, 9:00 a.m.
All grades for Spring Quarter due in the Office of the Registrar.

UNIVERSITY OF FLORIDA CALENDAR, 1977-78 SUMMER QUARTER

1978

May 5, Friday, 4:00 p.m.
Last day for those not previously in attendance or those previously in attendance at the University of Florida to file application for admission for the Summer Quarter. Students unable to meet this deadline may apply on a space available basis.

June 2, Friday, 4:00 p.m.
Last day for clearing admissions for those whose applications were filed by the above deadline. All credentials must have been received and college changes approved. Those who apply or clear after this date will be assigned late registration appointments.

June 16, Friday
Registration according to appointments assigned. No one permitted to start registration on Friday, June 16, after 3:00 p.m.

June 19, Monday
Classes begin, Drop/Add begins. Late registration begins. All students registering late subject to $25 late fee.

June 23, Friday, 4:00 p.m.
Last day for completing late registration for Summer Quarter. No one permitted to start registration on Friday, June 23, after 3:00 p.m.
Last day for Drop/Add and for changing sections. Students liable for fees for all hours for which registered.
Last day student may withdraw from the University and receive any refund of fees unless withdrawal is for medical or military reasons.
Last day for filing S-U option card in Registrar's Office.

June 26, Monday, 2:30 p.m.
Last day for paying fees without being subject to late fee of $25. Student must have correctly assessed fees and paid fees in full by this date.
Last day for filing address change in Registrar's Office, if not living in residence halls, in order to receive fee statement at new address.

July 4, Tuesday—Independence Day—Classes suspended.

July 7, Friday, 4:00 p.m.
Last day for filing application at the Office of the Registrar to change college or division for the next quarter.
Last day for filing degree application at the Registrar's Office for a degree to be conferred at the end of the Summer Quarter.
Last day to apply with the Registrar for an Associate of Arts certificate to be awarded at the end of the quarter.

July 14, Friday, 4:00 p.m.
Last day for removing grades of I or X received in preceding term. If not made up grade becomes E.

July 21, Friday—Last day of Special Five-Week Summer course offerings.

July 31, Monday, 9:00 a.m.
All grades for Special Five-Week Summer course offerings due in the Office of the Registrar.

August 4, Friday, 4:00 p.m.
Last day for withdrawing from the University without receiving failing grades in all courses.

August 11, Friday, 10:00 p.m.
No examinations, class quizzes or progress tests may be given after this date and prior to the final examination period.

August 18, Friday—All classes end.

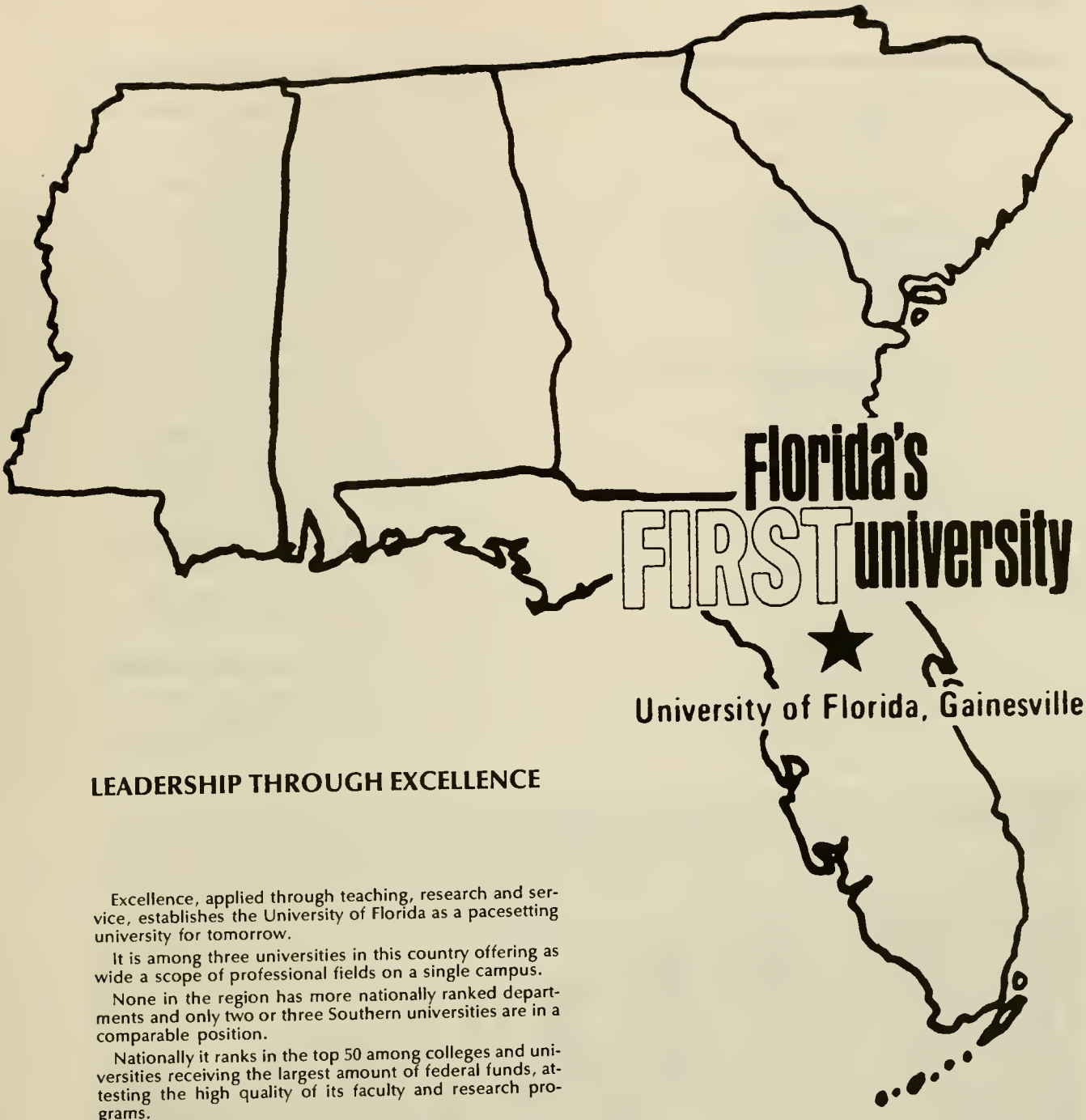
August 21, Monday
Final examinations begin. Assembly examinations begin Saturday, August 19.

August 24, Thursday, 10:00 a.m.—Degree candidates' grades due.

August 25, Friday, 3:00 p.m.
Report of colleges on degree candidates due in the Office of the Registrar.

August 26, Saturday—Commencement Convocations.

August 28, Monday, 9:00 a.m.
All grades for Summer Quarter due in the Office of the Registrar.



LEADERSHIP THROUGH EXCELLENCE

Excellence, applied through teaching, research and service, establishes the University of Florida as a pacesetting university for tomorrow.

It is among three universities in this country offering as wide a scope of professional fields on a single campus.

None in the region has more nationally ranked departments and only two or three Southern universities are in a comparable position.

Nationally it ranks in the top 50 among colleges and universities receiving the largest amount of federal funds, attesting the high quality of its faculty and research programs.

This diversification and extent of campus programs enables students to fulfill their intellectual and professional objectives. With this variety the University retains ability to appreciate individual students and provides, through small classes and advisement, the means to express their special talents and interests.

Undergraduates have the broadening experience of association within a university where the main professional fields, plus arts and sciences, are represented by undergraduate and graduate studies with research opportunity immediately available. A strength of the University is that its students range from Freshmen to Ph.D. candidates and professional postdoctorates.

The University of Florida is among 52 Carnegie Commission's top ranking Category 1 research-graduate institutions. Thus, this gives the undergraduate student a decided advantage. He may be taught by a research professor of international renown, interact with graduate students in some courses, and work in a major library designed for advanced instruction and research.

With the breadth of educational and research programs, opportunity for interdisciplinary effort and learning — students and faculty investigators working together using each others' experience and knowledge — the University is unlimited in its potential for service. Direct assistance to segments of society by generating and applying knowledge to solve current problems is an area of unique capability of the University in serving the needs of the state and nation.

A statewide university, the University of Florida is a comprehensive institution of exceptional quality. Florida's FIRST University, focusing its resources on solutions for tomorrow.

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UNIVERSITY OF FLORIDA

FLORIDA STATE BOARD OF EDUCATION

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CALVIN ANTHONY VANDERWERF, Ph.D.
Dean of the College of Arts and Sciences

ELECTED REPRESENTATIVES OF THE FACULTY

P. JOSEPH WITTMER, Ph.D.
Professor of Education

MICHAEL W. GORDON, J.D. (Alt.)
Professor of Law

NANCY R. HESS
Associate Professor of Marketing

MARILYN S. FREGLY, Ph.D.
Assistant Professor of Behavioral Studies

MICHAEL E. WARREN, Ph.D. (Alt.)
Assistant Professor of Electrical Engineering

REPRESENTATIVES OF THE STUDENT BODY

DANIEL LOBECK
President of the Student Body

SUSAN CLINE
President of Student Senate

LAFAYETTE MAXWELL
Vice President of the Student Body

PRESIDENTIAL APPOINTEES

JAMES C. ALLISON
Affirmative Action Coordinator

THOMAS SANFORD BIGGS, JR., LL.B.
University Attorney

FRED HILTON CANTRELL, B.S.B.A.
Director, University Relations

THOMAS WINSTON COLE, Ed.D.
Dean, Academic Affairs

HUGH W. CUNNINGHAM, JR., M.A.
Director, University Information & Press Secretary to President

JOSHUA CLIFTON DICKINSON, JR., Ph.D.
Director of the Florida State Museum

DALLAS FOX, M.S.A.
Associate Director, Division of Planning and Analysis

RICHARD J. GLIKES, M.B.A.
Coordinator, ROTC

THOMAS G. GOODALE, Ph.D.
Dean of Student Services

SAMUEL RAY GRAVES
Director, Intercollegiate Athletics

GUSTAVE ADOLPHUS HARRER, Ph.D.
Director of University Libraries

GAIL W. MELTON
Special Assistant to the President

LOUIS V. VOYLES, B.A.
University Registrar

RICHARD HOLMES WHITEHEAD, B.A.
Dean of Admissions and Records

ASSOCIATE MEMBERS

GEORGE T. SINGLETON, M.D.
Acting Director of Shands Teaching Hospital

ALFRED C. WARINGTON, IV, B.S.B.A.
President of the University of Florida Alumni Association

J. MALCOLM RANDALL, M.H.A.
Director of the Veterans Administration Hospital

HISTORICAL NOTE

The University of Florida is a combined state University and land-grant college located in the northern center of the State. While its beginnings go back to the days previous to Florida's admission to the Union in 1845, its first college — the College of Arts and Sciences — did not open until 1853. A few years later the passage of the Morrill Act provided lands for state institutions of higher learning which would promote agriculture, mechanical arts and military science, resulting in the beginnings of the College of Agriculture, the College of Engineering, and the Agricultural Experiment Station.

By 1905 there were a half-dozen state-supported institutions of higher learning in Florida, located in various parts of the State and struggling for existence. At that time the Florida Legislature took a step unprecedented in the history of education in any state by passing the Buckman Act, which abolished the six State Colleges and provided for the establishment of two new institutions, of which the University of Florida was one. It was established for men, at Gainesville and placed under the direction of the Board of Control, a body created by the Buckman Act. The seven members of the board represented the seven geographical sections of the state, and served without compensation, except for travel and incidental expense incurred in the performance of duty. In 1947 the University was made coeducational. The nine-member Board of Regents replaced the Board of Control in 1965.

SETTING AND ENVIRONMENT

The University of Florida is located in Gainesville, a city of approximately 80,000, excluding University of Florida students. Situated in north central Florida, midway between the Atlantic Ocean and Gulf of Mexico, the city is known as an agricultural and small industrial center.

In addition to a moderate climate, Gainesville offers many other advantages to students of the University. A golf course is within easy reach of the campus, and swimming and boating accommodations are available at nearby springs and rivers. The lakes in the vicinity abound in fresh water fish, while the Atlantic Ocean and the Gulf of Mexico are within a two hours' drive. As the seat of Alachua County, the city is the focal point of diversified industrial and farming activities.

Practically every religious denomination is represented in the Gainesville area. Churches that are active include the Presbyterian, Baptist, Lutheran, Methodist, Catholic, Episcopal, Christian, Seventh Day Adventist, Church of Christ Scientist, Church of Christ, Christian and Missionary Alliance, Advent Christian, B'nai Israel, Church of Latter Day Saints, Church of the Nazarene, Assembly of God, Apostolic Church of Christ, Church of God, Disciples of Christ, Pentecostal Holiness, United Church of Christ, Unitarian-Universalists, and several of these denominations maintain chapels adjacent to the campus. These include St. Augustine Chapel (Catholic Student Center), the Baptist Student Union, Wesley Foundation (Methodist Student Center), Chapel of the Incarnation (Episcopal Student Center), Church of Christ, B'nai B'rith Hillel Foundation (Jewish), the Lutheran Student Association, the Latter Day Saints (Mormon), Disciples-Presbyterian Student Center and the Society of Friends (Quaker). All the chapels carry on extensive programs of vital interest to University students.

TRANSPORTATION

A schedule of daily bus service, with connections to all points of the United States, is maintained by Southeastern Greyhound Lines and Trailways Bus System. Eastern Airlines serves Gainesville with daily flights with connections to all parts of the U.S. Florida Airlines serves all major areas of the state.

GOVERNMENT OF THE UNIVERSITY

Direct supervision over the University of Florida, its policies and affairs, is vested in the Board of Regents, a body composed of nine citizens from different regions of the state who are appointed by the Governor for nine-year terms. University affairs are administered by the president with the advice and assistance of the Administrative Council. The legislative body of the University is the University Senate.

ADMINISTRATIVE AFFAIRS

THE VICE PRESIDENT FOR ADMINISTRATIVE AFFAIRS is the chief business officer of the University. He is responsible for establishing policy relating to university business matters; coordinating the preparation of and control of the operating budget; collecting and disbursing funds in accordance with state statutes; managing campus security, auxiliary services and the maintenance of the physical plant and grounds; directing purchasing, the administrative computer, staff personnel and property control, and environmental health and safety.

ACADEMIC AFFAIRS

THE VICE PRESIDENT FOR ACADEMIC AFFAIRS is the chief academic officer for the University. In this capacity he supervises the allocation of resources in the academic areas, the improvement of instruction, the correlation of instructional activities, the development and improvement of research activities, the evaluation of university academic activity, and the establishment of policy with respect to employment, promotion, and tenure of the academic staff. In the absence of the President and Executive Vice President he acts with the authority and responsibility of the President.

QUARTER SYSTEM

The University of Florida operates on a quarter system. In a twelve-month year there are four quarters running from September through August, averaging ten weeks of class instruction. Courses are scheduled in such a way that a student may enter the University at any quarter and proceed normally through an appropriate sequence of courses. Quarters begin in September, January, March and June.

COLLEGES AND SCHOOLS

THE COLLEGE OF AGRICULTURE, a unit of the Institute of Food and Agricultural Sciences, offers curricula in all of the major fields of agriculture and grants the degree of Bachelor of Science in Agriculture. See Page 51.

THE COLLEGE OF ARCHITECTURE offers curricula in architecture, interior design, landscape architecture and building construction. It confers the degrees of Bachelor of Design, Bachelor of Landscape Architecture, and Bachelor of Building Construction. See Page 63.

THE COLLEGE OF ARTS AND SCIENCES offers curricula leading to degrees of Bachelor of Arts and Bachelor of Science, with opportunities for specializing in many science and liberal arts fields. It offers the courses in mathematics, biological sciences, physical sciences, social sciences and humanities required in the curricula of the professional colleges. See Page 71.

THE COLLEGE OF BUSINESS ADMINISTRATION offers curricular programs leading to the degree of Bachelor of Science in Business Administration. It also offers a specialized program leading to the degree of Bachelor of Advanced Accountancy. See Page 83.

General

GENERAL INFORMATION

THE COLLEGE OF DENTISTRY, an integral part of the J. Hillis Miller Health Center, graduated its first students in June, 1976. The College offers an innovative modular curriculum leading to the degree of Doctor of Dental Medicine. See Page 89.

THE COLLEGE OF EDUCATION has curricula in elementary and secondary school instruction leading to the degrees of Bachelor of Science in Education or Bachelor of Arts in Education. It also provides an inservice program for the teachers of the state. The P.K. Yonge Laboratory School, a unit of the College of Education, enrolls pupils from the kindergarten through the secondary school. Undergraduate teacher preparation programs are NCATE approved and lead to certification at pre-school, elementary, and secondary levels in Florida and thirty other states where NCATE standards provide the basis for reciprocal agreements. See Page 91.

THE COLLEGE OF ENGINEERING offers curricula leading to the degree of Bachelor of Science in Chemical Engineering, in Civil Engineering, in Electrical Engineering, in Industrial Engineering, and in Mechanical Engineering. The Bachelor of Science in Engineering is awarded with majors in Aerospace Engineering, Agricultural Engineering, Ceramic Engineering, Engineering Sciences, Metallurgical Engineering, Nuclear Engineering, and Systems Engineering. The Bachelor of Science degree is awarded with majors in Computer and Information Sciences, Environmental Engineering Sciences, Nuclear Engineering Sciences, and Interdisciplinary Engineering Studies. The college also offers the Bachelor of Engineering Technology degree with majors in land surveying and metals joining. See Page 103.

THE COLLEGE OF FINE ARTS offers curricula in the studio arts, history of art, crafts, graphic design, art education, music, music education, and theatre, and confers the degrees Bachelor of Design, Bachelor of Arts in Art, Bachelor of Fine Arts, Bachelor of Music, Bachelor of Music Education and Master of Fine Arts. See Page 121.

THE SCHOOL OF FOREST RESOURCES AND CONSERVATION is a unit of the Institute of Food and Agricultural Sciences. The school offers majors in the professional disciplines of Forestry, Range Ecosystem Management, Wildlife Ecology, and General Resource Management and Conservation that does not specify a professional field. See Page 129.

THE GRADUATE SCHOOL offers programs leading to the degrees of Doctor of Philosophy in 56 fields; Doctor of Education, Specialist in Education, Engineer, Master of Agriculture, Master of Agricultural Management and Resource Development, Master of Arts, Master of Arts in Architecture, Master of Arts in Education, Master of Arts in Health Education, Master of Arts in Journalism and Communications, Master of Arts in Physical Education, Master of Arts in Teaching, Master of Arts in Urban and Regional Planning, Master of Building Construction, Master of Business Administration, Master of Education, Master of Engineering, Master of Fine Arts, Master of Forest Resources and Conservation, Master of Health Education, Master of Laws in Taxation, Master of Health Science, Master of Nursing, Master of Physical Education, Master of Science, Master of Science in Building Construction, Master of Science in Nursing, Master of Science in Pharmacy, Master of Science in Statistics, Master of Science in Teaching, and Master of Statistics. All instruction is carried on by the faculties of the colleges and schools listed here.

THE COLLEGE OF HEALTH RELATED PROFESSIONS, a unit of the J. Hillis Miller Health Center, offers curricula leading to a Bachelor of Health Science in Allied Health, Bachelor of Health Science in Clinical and Community Dietetics, Bachelor of Health Science in Medical Technology, Bachelor of Health Science in Occupational Therapy, and a Bachelor of Health Science in Physical Therapy. The College also offers a curriculum leading to the degree of Master of Health Science in Occupational Therapy and Master of Health Science in Rehabilitation Counseling. See Page 133.

THE COLLEGE OF JOURNALISM AND COMMUNICATIONS offers curricula leading to the degree of Bachelor of Science in Journalism, Bachelor of Science in Advertising, and Bachelor of Science in Broadcasting. It offers sequences in public relations, technical communication and criminal justice public relations.

There are areas of specialization in reporting, news editing, photojournalism, urban affairs journalism, journalism education, broadcast news and public affairs, film production, and broadcast production. See Page 141.

THE COLLEGE OF LAW offers a curriculum leading to the degree of Juris Doctor and a graduate program in taxation leading to the degree Master of Laws. See Page 149.

THE COLLEGE OF MEDICINE, a unit of the J. Hillis Miller Health Center, offers a curriculum leading to the professional degree of Doctor of Medicine. Ph.D. degrees in basic medical sciences are offered through the Graduate School. A special medical scientist training program leading to the combined degree of Doctor of Medicine-Doctor of Philosophy is available jointly through the College of Medicine and the Graduate School. See Page 150.

THE COLLEGE OF NURSING, a unit of the J. Hillis Miller Health Center, offers a curriculum leading to the Bachelor of Science in Nursing degree. The College also offers a curriculum leading to the Master of Nursing degree or a Master of Science in Nursing degree. See Page 151.

THE COLLEGE OF PHARMACY, a unit of the J. Hillis Miller Health Center, offers a curriculum leading to the degree of Bachelor of Science in Pharmacy. In addition the degree Doctor of Pharmacy (Pharm.D.) is offered. M.S. and Ph.D. degrees are offered in pharmaceutical sciences through the Graduate School. See Page 155.

THE COLLEGE OF PHYSICAL EDUCATION, HEALTH, AND RECREATION offers services and programs through the departments of General Physical Education, Professional Physical Education, Health Education and Safety, and Recreation. The department of General Physical Education provides programs for university students other than majors. The departments of Professional Physical Education, Health Education and Safety, and Recreation offer professional preparation programs leading to undergraduate degrees in physical education, health education, and recreation. Professional areas of preparation include: teachers of physical education or health education, health educators for public or voluntary agencies, and recreation directors. See Page 159.

THE UNIVERSITY COLLEGE is the academic home for Freshmen and Sophomores while they prepare for admission to one of the other colleges. It provides courses in general education and awards the Associate of Arts Certificate. See Page 31.

THE COLLEGE OF VETERINARY MEDICINE, a teaching unit of the J. Hillis Miller Health Center, offers a curriculum leading to the professional degree of Doctor of Veterinary Medicine. See page 166.

DIVISION OF CONTINUING EDUCATION

During the last year more than 49,893 people took advantage of the many University sponsored opportunities made available through the Division of Continuing Education. More than 39,157 people participated in non-credit conferences, workshops, institutes and seminars. More than 8,122 students enrolled in Independent Study by Correspondence courses (both credit and non-credit). Over 2,200 students studied in credit extension classes throughout the State. Over 885 local residents participated in the non-credit Evening Program. Additionally, three international programs were offered through this Division last year. Backed by the resources of the University, the Division of Continuing Education sees the State as its campus and the people as its student body.

SPECIAL INSTRUCTIONAL UNITS SERVING ALL COLLEGES AND SCHOOLS

THE INTERCOLLEGE DEPARTMENT OF COMPUTER AND INFORMATION SCIENCES. During the last two decades electronic information processing machines with capability many orders of magnitude beyond their predecessors have come into being. Though still in their infancy they are already extending man's capability to solve problems in every field of human activity. Against this background, the organization of a curriculum dedicated to a broad sector of human endeavor was necessary. Toward this end the Intercollege Department of Computer and Information Sciences was created in 1971. The department currently offers degree programs in the College of Arts and Sciences, Business Administration and Engineering. Degree programs within other colleges are under study.

Subject areas found within the CIS curricula are concerned with representations and transformations of information structures and with theoretical models for such representations and transformations. In addition the computer or information scientist is concerned with systems having the ability to transform information and with the methodologies derived from broad areas of applications having common structures, processes and techniques. This prepares the student for a wide range of careers in the business, industrial, scientific, civic and academic worlds wherein information flow and analysis is of critical importance to decision making.

In addition to the degree programs, several service courses are available for those who need experience in computer applications for proper career preparation. For further information, contact the CIS department office in 512 Weil Hall.

THE CENTER FOR LATIN AMERICAN STUDIES is the University unit responsible for directing or coordinating interdisciplinary instructional and research programs related to the Latin American area. It is a budgeted unit within the University and is administered by a Director immediately responsible to the Vice President for Academic Affairs.

The Center sponsors conferences, publishes the results of scholarly research related to Latin America, and cooperates with other University units in overseas development and training programs. It administers a program with Universidad de los Andes, Bogota, Colombia for the State University System and offers programs in Latin American Studies leading to a B.A. degree, and B.S., M.A. and Ph.D. Certificates in Latin American Studies; an interdisciplinary Master of Arts in Latin American Studies; and, a M.A. and Ph.D. Certificate in Latin American Demographic Studies.

THE DEPARTMENT OF MUSIC has the responsibility for such musical organizations as the University Bands, Orchestras, Choruses, and Glee Clubs, and offers courses in the following areas: (1) Theory of Music, (2) History and Literature, (3) Applied Music, (4) Music Education, and (5) Ensemble Music.

THE DEPARTMENT OF MILITARY SCIENCE offers the four year program and the two year program of Army ROTC. Completion of either of these programs by a student leads to being commissioned in one of the branches of the United States Army Reserve or the Regular Army. Freshman/Sophmore AROTC carries no service obligation. One, two, three and four year scholarships are available to interested students who can qualify.

THE DEPARTMENT OF NAVAL SCIENCE offers a wide variety of academic programs which include all major courses available at the University of Florida. Numerous one to four year full scholarships (plus living expense payments) are available. Officer Commissions in the U.S. NAVY or U.S. MARINE CORPS are awarded upon completion with assignments in various occupational fields such as NUCLEAR POWER, AVIATION, MEDICINE, LAW, all ENGINEERING disciplines, MANAGEMENT and RESEARCH and DEVELOPMENT.

THE DEPARTMENT OF AEROSPACE STUDIES offers men and women students four-year and two-year programs in Air Force ROTC. Completion of either of these officer education programs leads to a commission in the United States Air Force. Numerous scholarships are available on a competitive basis to students enrolled in the program. Pilot training is given to qualified male AFROTC students electing a pilot career in the Air Force.

INSTRUCTIONAL SERVICE UNITS

THE OFFICE OF INSTRUCTIONAL RESOURCES encourages experimentation in teaching and individualized services to students. Reporting directly to the Office of Academic Affairs, it provides support for the innovation of alternative approaches to instruction in the colleges and departments of the University; assists faculty members in the development of instructional modules or systems for specific courses; and furnishes technical assistance in the development and use of teaching materials and media, analysis and improvement of teaching and the evaluation of student performance. Three units include an audio-visual materials center, testing and examination services, and an instructional improvement section.

Other units emphasizing individualized instruction include the Reading and Study Skills Center, the Personalized Learning Center, and the Language Laboratory. Selected self-paced credit courses are available in reading, study habits, tutoring and language skills. Research consultation, course enrichment and evaluation services are also offered to interested faculty.

THE OFFICE OF THE REGISTRAR has charge of the admission and registration of students, the maintenance of academic records, the scheduling of courses, and the issuance of transcripts of student records.

THE COUNSELOR TO FOREIGN AGRICULTURE STUDENTS. Foreign students in Agriculture are requested to contact the Office of International Programs in McCarty Hall. This office aids foreign students to integrate their American education more completely with actual conditions in their homelands and also gives information to all students interested in foreign agricultural problems and careers in the tropics.

UNIVERSITY OF FLORIDA LIBRARY SERVICE

The library system consists of two central units, Library East and Library West, and branch libraries in the Colleges of Architecture, Education, Engineering, Fine Arts, Law, the Institute of Food and Agricultural Sciences, the J. Hillis Miller Health Center, the Departments of Chemistry and Music, and the P.K. Yonge Laboratory School. In addition, reading room facilities have been provided for Business Administration, Journalism and Communications, Physical Education, Health and Recreation and the dormitory areas.

The holdings of the libraries number over 1,730,000 cataloged volumes and a large number of uncataloged documents and newspapers. Many of the materials are in the form of microfilm and microcards. Among the special collections in the library system are the Rare Book Collection, the Belknap Collection for the Performing Arts, the P.K. Yonge Library of Florida History, the Marjorie Kinnan Rawlings Collection, which consists of manuscripts, typescripts, and memorabilia of one of America's distinguished novelists, and the Collection of Creative Writing, which includes work sheets, manuscripts, and other literary papers of significant contemporary American and British Authors. In recent years, special emphasis has been placed upon strengthening the holdings for the Latin American Area

Studies Program, especially for the West Indies and the Caribbean areas.

There are centers for reference service in both Library West and Library East. The major collection of bibiliographies and reference books is located on the first floor of Library West, with librarians available to give assistance to students and faculty.

Photoduplication services are available. The regular schedule for the central libraries is Monday through Friday, 8:00 A.M. to 11:00 P.M.; Saturday, 10:00 A.M. to 5:00 P.M.; Sunday, 10:00 A.M. to 11:00 P.M. The libraries serving the various academic colleges and schools observe a similar schedule with variations. A handbook, *Getting Around in Your University of Florida Libraries,* provides helpful information on loan regulations and special services.

THE FLORIDA STATE MUSEUM

The Florida State Museum was created by an act of the Legislature in 1917 as a department of the University of Florida. Through its affiliation with the University it carries the dual responsibility as the State Museum of Florida and as the University Museum.

The Museum operates as a center of research in anthropology and natural history. Its functions as an educational arm of the University are carried forward through interpretive displays and scientific and popular publications. Under the administrative control of the director are the three departments of the Museum: Natural Science, staffed by scientists and technicians concerned with the study and expansion of the research collections showing adaptive variations in animal structure and ecology; Social Science, whose scientists and technicians are concerned with the study of human variations and cultures, both historic and prehistoric; Interpretation staffed by specialists in the interpretation of knowledge through museum education and exhibit techniques. Members of the scientific and educational staff of the Museum hold dual appointments in appropriate teaching departments. Through these appointments they participate in both the undergraduate and graduate teaching programs.

Scientific reports are published in the Bulletin of the Florida State Museum, Biological Sciences and in the Contributions of the Florida State Museum, Anthropology and History.

The research collections are under the care of curators who encourage the scientific study of the Museum's holdings. Materials are constantly being added to the collection both through gifts from friends and as the result of research activities of the Museum staff. The archaeological and ethnological collections are noteworthy. There are extensive study collections of birds, mammals, mollusks, reptiles, amphibians, fish invertebrate and vertebrate fossils, as well as archives of animal sounds associated with the bioacoustics laboratory.

Opportunities are provided for students, staff, and visiting scientists to use the collections. Research and field work are presently sponsored in the archaeological, paleontological and zoological fields. Students interested in these specialties should make application to the appropriate teaching department.

Graduate assistantships are available in the Museum in areas of specialization emphasized in its research programs. Facilities are available for graduate students.

The Museum is located at the corner of Museum Road and Center Drive in a modern facility completed in 1970. The public halls are open from nine until four thirty each weekday, from nine to five on Saturdays, and from one to five on Sundays. The Museum halls are closed on Christmas Day. There is no admission charge. The Museum is frequently used by University and public school classes. Classes for children and special public programs are also offered for members of the University community and the general public.

GENERAL STATE AND UNIVERSITY AGENCIES

THE FLORIDA COOPERATIVE EXTENSION SERVICE.

The transfer and application of knowledge through nonresident educational programs is the primary purpose of the Florida Cooperative Extension Service, a division of IFAS. The educational programs are tailored to fit the needs of many audiences in areas of agricultural production, marketing and utilization; home economics; community resource development; and marine sciences. Audiences include adults and youth, rural and urban citizens, minorities and people from all economic levels. The Cooperative Extension Service is administered by the University of Florida under a memorandum of understanding with USDA. There is also a cooperative program funded through federal grants to the Florida Cooperative Extension Service with Florida A&M University. The basic legislative authority makes provision for cooperation with local government. In Florida, county programs are carried out jointly between the University and respective county governments in the 67 counties. The Extension Service along with Resident Instruction and Research in IFAS form a functional model typifying the tripartite organizational structure envisioned in the Morrill Act for the Land Grant College system.

The OFFICE OF UNIVERSITY RELATIONS is responsible for the development of public relations, including visitor reception, cooperating with all campus agencies and organizations in the planning and implementation of their public relations activities and serving as the University representative with civic organizations which work with the University and are not professionally related to a particular school or college. University Relations coordinates with all campus agencies dealing with off-campus publics in a continuing effort to develop two-way communications with the public and to encourage public support and understanding of the University, its programs and higher education.

The DIVISION OF INFORMATION AND PUBLICATIONS SERVICES serves University academic units, departments, service offices and other campus-related organizations by distributing information through mass media outlets, and providing communication services for the campus community. It interprets the University's programs, policies and objectives through newspapers and magazines, radio and television broadcasts, motion pictures, publications, photographs, audio-visual presentations, special displays and exhibits, and community relations projects. The Division produces the *University Digest* printed in the *Independent Alligator,* and Uniscope, a 30-minute weekly magazine format television show used by commercial stations in the state's metropolitan areas. It assists other units with booklets, folders, brochures, and other printed material by coordinating copy content, design, and preliminary production, and assists in preparing bid specifications for printing.

The OFFICE OF DEVELOPMENT AND ALUMNI AFFAIRS is the campus headquarters for the University of Florida Alumni Association, Inc. and the University of Florida Foundation, Inc.

The University of Florida Alumni Association, Inc. brings together the organized efforts of alumni and the promotion of the interests and needs of the University and strives to encourage continuous participation by alumni in the life of the University.

The University of Florida Foundation exists to encourage support from the private sector to the University for both operating and capital purposes. It is a private corporation organized to hold funds for the benefit of the University, to invest them and to insure the maximum value of the University's private support.

THE UNIVERSITY GALLERY is an integral part of the Fine Arts College. The Gallery is located on the campus facing south 13th Street (or U.S. 441). An atrium and a reflecting

pool are two pleasing features of the Gallery's distinctive architecture style. The Gallery, with 3000 square feet of display space, is completely modern, air-conditioned and maintains a varied exhibition schedule of the visual arts during the year. The content of exhibitions displayed in the University gallery range from the creations by traditional masters through to the latest and most experimental works by the modern avant garde. The minor arts of yesterday and today along with the creations of oriental and primitive cultures form topics for exhibitions scheduled. The Gallery originates one or two of the major exhibitions during the year. Each exhibition shows for approximately a month and the Gallery's hours are from 9 A.M. to 5 P.M. daily except Sunday when they are 1 P.M. to 5 P.M. The Gallery is closed on Saturdays and holidays.

GALLERY X, the teaching gallery of the Department of Art, is located adjacent to the Department's office area on the third floor of the Classroom Building (Bldg. 'C' AFA), in the College of Architecture and Fine Arts complex. As a direct and physical adjunct to the Art Department's teaching program this Gallery displays smaller traveling exhibitions of merit as well as one man shows by the faculty artists and student exhibitions. The Gallery is open Monday through Friday from 9 A.M. to noon and from 1:30 P.M. to 5 P.M. It is closed Saturdays, Sundays and holidays.

THE CENTER FOR LATIN AMERICAN AND TROPICAL ARTS is an interdisciplinary Center that provides coordination, direction, and focus to strengthen existing programs related to the Fine Arts within the College of Fine Arts. The Center's faculty is bound together by a desire to relate their research and teaching activities to the broader concepts concerned with the fine arts of various world cultures. The Center broadens and strengthens existing interdepartmental relations and provides additional stimuli and mechanisms for translating results of research into more viable forms that relate directly to societal needs. It also establishes more effective lines for the training of able students at the undergraduate, graduate, and adult education levels in various aspects of the fine arts.

THE UNIVERSITY BROADCAST FACILITY is operated by the College of Journalism and Communications. It includes WUFT, Channel 5, a public broadcasting television station (PBS), WRUF-AM, the commercial radio station 850 KHz, WRUF-FM, a commercial FM station, stereo, 103.7 MHz, and Radio Center. Radio Center extends the cultural and informational arm of the university through the programs which it originates, produces, and distributes to radio stations throughout Florida.

Approximately 100 students are employed in these broadcasting operations. Thus, in addition to the broad academic background provided in the university's classrooms and laboratories, these work opportunities provide a valuable experience in day-to-day operations typical of the industry. Students perform such functions as director, cameraman, and disc-jockey all under the guidance of professional broadcasters. The college has earned a nationwide reputation for the demonstrated effectiveness of this academic and work experience training.

WUFT telecasts programs of PBS, the Public Broadcasting Service, FPB, Florida Public Broadcasting Network, as well as local studio and remote originations. As a unit of the Florida Public Television Network, it both originates and receives programs of particular interest to the people of Florida.

WRUF-AM serves the contemporary music audience, while the WRUF-FM music ranges from show tunes to classical music, with a touch of progressive rock for the late night listener. Both stations carry news and features from the National Broadcasting Company Radio Network.

Radio Center presently produces 7 different series of programs that are heard in every market in Florida. In addition, the Radio Center produces a continuing program of classical music that is broadcast on WRUF-FM each evening.

The student's proximity to, and participation in, this diverse broadcast operation brings a greater understanding of the opportunities and obligations that exist in the field of broadcasting.

THE UNIVERSITY OF FLORIDA PRESS functions to encourage, publish, and promote original and scholarly manuscripts which will aid in developing the University as a recognized center of research and scholarship.

In addition to its broad range of state, regional, and inter-American titles, the Press publishes books of general interest, and six separate series: The Floridiana Facsimile Series, the Institute of Gerontology Series, the Latin American Monographs, (Series Two), and the University of Florida Monographs (Humanities and Social Sciences). The Press is also the publisher of the annual HANDBOOK OF LATIN AMERICAN STUDIES, which is sponsored by the Library of Congress.

The Press Board of Managers, including the director and fifteen faculty members appointed by the President of the University, determines policies relating to the issuance of author contracts and the acceptance of manuscripts submitted for publication.

The University of Florida Press is a member of the Association of American University Presses and the Association of American Publishers.

ORGANIZED RESEARCH

THE DIVISION OF SPONSORED RESEARCH was established by an act of the legislature to support and to foster sponsored research and training as a resource essential to excellence in education and to provide maximum service to the State. The Division is a development arm of the University, coordinating its efforts closely with the Office of Academic Affairs and the Graduate School.

All proposals for sponsorship of research, grants-in-aid, and training grants are approved by the director. Negotiations on administrative matters with potential contracting agencies or sponsors of research and training projects are carried out by the Division.

The activities of the Division of Sponsored Research are intended to stimulate growth and to assist in expanding a balanced research and training program throughout the University. These activities are intimately related to the support of the graduate and professional program. The services provided are designed to relieve the principal investigators in many departments of detailed administrative and reporting duties connected with some sponsored programs. The duties and responsibilities of the Division, of course, do not supplant the prerogative of the principal investigator who seeks sponsors for his own project nor upon the responsibility of the investigator for the scientific integrity of the project. In direct contacts between a principal investigator and a potential sponsor, however, coordination with the Division is necessary to insure uniformity in contract requirements and to avoid duplication of negotiations with the same sponsor.

The Division of Sponsored Research is administratively responsible to the Vice President for Academic Affairs. Policies and procedures for the Division are developed by a board of directors working with the director within the general framework of the administrative policies and procedures of the University.

THE AGRICULTURAL EXPERIMENT STATIONS, an organizational division of the Institute of Food and Agricultural Sciences, is responsible for the IFAS research mission leading to improvement of all phases of Florida's widely varied agricultural production, processing and marketing. Research is administered by the Dean for Research located on the University of Florida campus. He works through 19 departments, 7 Agricultural Research and Education Centers and 14 Agricultural Research Centers.

Results of IFAS research are published in scientific journals, bulletins, monographs, circulars, mimeographed reports and the *Sunshine State Agricultural Research Report* and are available to Florida residents usually without

charge upon request to the Editorial Department of the Agricultural Experiment Station at Gainesville. The Agricultural Experiment Station cooperates closely with the Agricultural Extension Service in providing research findings for prompt dissemination.

IFAS research is conducted within 19 departments — Agricultural Engineering, Agricultural and Extension Education, Agronomy, Animal Science, Biochemistry, Botany, Dairy Science, Entomology and Nematology, Food and Resource Economics, Food Science, School of Forest Resources and Conservation, Fruit Crops, Microbiology, Ornamental Horticulture, Plant Pathology, Poultry Science, Soil Science, Statistics, Vegetable Crops and Veterinary Science. In addition to the above the Main Station has six units vital to its research programs, namely: Editorial, Library, Business Service and Centers for Rural Development and Environmental Programs.

In order to best serve the varied needs of Florida's diversified agriculture, Agricultural Research and Education Centers are located at numerous locations having different climatic conditions, soil types and crops. Intensive research is conducted in all fields of agriculture such as citrus, vegetable, field crops, livestock, pastures and many others.

The Agricultural Research Centers and their locations are as follows: Monticello, Brooksville, Ft. Pierce, Immokalee, Dover, Ft. Lauderdale, Hastings, Ona, Apopka, Marianna, Live Oak, Leesburg, Lakeland, Jay and Ocala.

The Agricultural Research and Education Centers and their locations, are as follows: Homestead, Belle Glade, Bradenton, Lake Alfred, Quincy, Sanford and Tallahassee. A Research and Education Center is also located at Welaka, Florida and is concerned largely with biological research programs and youth programs.

The Florida Agricultural Experiment Station is cooperating with the Brooksville Beef Cattle Research Station, Brooksville, a USDA field laboratory, in its beef cattle and pasture production and management programs, and with the National Weather Service, Lakeland, in the Federal Frost Warning Service for fruit and vegetable producers and shippers, as well as cooperating with numerous Florida agricultural agencies and organizations.

THE FLORIDA ENGINEERING AND INDUSTRIAL EXPERIMENT STATION developed from early research activities of the engineering faculty and was officially established in 1941 by the Legislature as an integral part of the College of Engineering. Its mandate is "to organize and promote the prosecution of research projects of engineering and related sciences, with special reference to such of these problems as are important to the industries of Florida."

The College and the Station are inextricably intertwined — the two activities cannot be separated functionally; they comprise the two arms of the whole engineering body. In many instances a program initiated primarily as a research entity has developed into a full-fledged academic department of the College, demonstrating the close interlocking relationship of the research and teaching functions.

Each year a series of "Special EIES Projects" are selected that are of high priority to Floridians. Examples are projects on regional water management, beach stabilization, pollution abatement, power plant site selection, stream improvement and technology transfer.

Since 1967, seven departments of the College of Engineering and the Experiment Station have moved into some 310,000 sq. ft. provided in seven modern new buildings and one remodeled building. These improvements, including equipment, have raised the value of the physical plant of the College to over $13 million.

The laboratories, staff, and facilities of other divisions of the University also are available to the Station research faculty through many outstanding interdisciplinary programs. These research faculty members comprise the teaching and lecture staff with whom the students come into daily contact in the classroom. With the close relationship that exists between teaching and research, students are exposed to many engineering and industrial problems normally not encompassed in a college program. Moreover, the undergraduate students frequently find employment on research projects as student assistants.

The Station receives only a small portion of its operating revenue from the state. The major support of its research activities is derived from contracts with government agencies, foundations, and industrial organizations. Large and small manufacturers avail themselves of the finest engineering research laboratories in the Southeast. The Station has superior facilities and staff in such fields as microelectronics and integrated circuits; power systems; metallurgy; ceramics; coastal and oceanographic engineering; soil mechanics; transport phenomena and fluid dynamics; energy conversion, air and water pollution control; electrochemistry; fast neutron physics; nuclear rocket propulsion; dynamics and vibrations; communications; kinetics, ionics, gaseous electronics and plasmas, and systems analysis, to name a few.

THE BUREAU OF RESEARCH is a unit of the College of Architecture established to foster and encourage research related to the disciplines represented in the college. These include architecture, building construction, landscape architecture, interior design, and urban planning. The Bureau also provides assistance to faculty and graduate students in establishing cooperative efforts with other units of the University.

THE BUREAU OF ECONOMIC AND BUSINESS RESEARCH is the Research Division of the College of Business Administration. A part of the work of the Bureau is to provide economic and business information about Florida. A major source of this information is the FLORIDA STATISTICAL ABSTRACT published annually by the Bureau. The Bureau, through its Division of Population Studies, makes annual estimates of population by city and county in Florida as well as providing other data on the components of population and growth. By published reports of special research and through the monthly Economic Leaflets (sent free to any resident of Florida upon request), quarterly release of Population Studies, the bi-monthly Business and Economic Dimensions, and special reports, the results of research work are available to all residents of Florida. Consultant serices are rendered the business community, civic groups, and government. The Bureau makes it possible for teaching professors to engage in organized research and provides research training for graduate students.

THE PUBLIC ADMINISTRATION CLEARING SERVICE, is a research, publication, and service adjunct of the Department of Political Science in the College of Arts and Sciences. It carries on a continuous program of research on public administration and public policy in Florida; it publishes research and surveys of governmental and administrative problems in both scientific and popular monograph form. In addition, the Public Administration Clearing Service coordinates the programs of instruction and public service training in cooperation with other units of the University.

THE COMMUNICATION RESEARCH CENTER OF THE COLLEGE OF JOURNALISM AND COMMUNICATIONS conducts research in the news media, in broadcasting, advertising, and public relations. The center is housed in Room 400, Stadium.

THE DIVISION OF PLANNING AND ANALYSIS performs the analysis and does the planning required to ensure that available resources will be used to accomplish the goals of the many and diverse programs of the University of Florida at minimum long-range cost. Work is carried out by the staff and related committees in the areas of campus planning, budgeting, space assignment, and coordination of architectural design and construction of facilities.

THE FLORIDA WATER RESOURCES RESEARCH CENTER which is funded by the Department of the Interior was established in 1964 at the University of Florida as the result of the passage of P.L. 88-379—The Water Resources Research Act of 1964—"to stimulate, sponsor, provide for, and supplement present programs for conduct of research, investigation, experiments, and the training of scientists in the fields of water and of resources which affect water."

The Center's Director operates under the general policy guidance of an advisory committee appointed by the President of the University. Research projects administered by the Center and pertaining to the achievement of adequate state wide water resource management, water quality and water quantity are being conducted by professors in various departments at the University of Florida, and other colleges and universities in the State. Graduate assistants may be employed on these projects or other activities of the Center.

COMPUTATIONAL FACILITIES

In addition to numerous small digital computers and at least three hybrid computers located on the campus, the University of Florida houses the central facilities of the Northeast Regional Data Center (NERDC) of the State University System of Florida. These facilities, which are available to students and faculty at the University, include an IBM System 370/165 computer with four megabytes of high-speed main memory, more than twenty IBM 3330 equivalent disk drives, six 9-track tape drives and one 7-track tape drive.

NERDC supports batch processing, high-speed cathode ray tube terminals running under CICS, and well over a hundred low speed interactive terminals serving almost all areas of the campus as well as other parts of northern Florida. These terminals support APL, FLORTRAN (a locally written interactive FORTRAN interpreter), BASIC, and ATS, in addition to having an interactive file generation and editing capability and the ability to be used for submission and batch jobs. Limited output from batch jobs may also be routed to such terminals. More extensive output is printed on the two centrally located high-speed printers or at one of the high-speed remote batch terminals which are also available for submission of batch jobs at several locations on campus. Graphic output is available via a Gould 5100 electrostatic plotter operated by NERDC for the University of Florida. Extensive software support is provided for batch processing, including the major high-level languages and a large number of program packages and special purpose languages. Among these are FORTRAN, PL/1, ASSEMBLER, COBOL, a number of student oriented compilers and interpreters, most major statistical packages, simulation languages, several libraries of scientific and mathematical routines, the Gould and other plotting software, and many others.

The NERDC facilities are used for administrative as well as instructional and research computing. Since NERDC is a State University System support facility, the staffs responsible for computing at the University of Florida are in three separately managed organizations which are not a part of NERDC. These are the Shands Teaching Hospital Data Processing Division, the University of Florida Administrative Computing Services, and the Center for Instructional and Research Computing Activities at the University of Florida (CIRCA-UF). More information about the NERDC is available through its user manuals and its monthly newsletter, /Update.

CIRCA-UF cooperates with NERDC to provide input/output services, consulting services, and applications software procurement, maintenance, and development, for the University of Florida students and faculty. High-speed batch input/output facilities are available at three campus locations, with open-shop keypunches near each. Open-shop terminals are available in Weil Hall for the academic community, as are consulting services. There is also a professional data-entry staff.

In cooperation with NERDC and CIRCA, the UF Library also offers extensive Census data services.

INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES

THE INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES is the University of Florida's statewide agricultural research and educational organization. IFAS programs extend into every county, and reach people in virtually every community in Florida.

The Primary mission of IFAS is to help Florida realize its maximum potential for agricultural development, and to contribute to the solution of many social, economic, environmental and cultural problems of concern to the people of the state. This vital developmental mission is carried out through the three functions of resident instruction, research, and extension. These are carefully inter-related to provide a highly coordinated effort for the benefit of Florida — its citizens and its industry. This effort is guided by the Vice President for Agricultural Affairs.

The offices of the Vice President, as well as the Deans for Resident Instruction, Research, and Extension are located near the center of campus in McCarty Hall. Administrative offices of the School of Forest Resources and Conservation are located in Newins-Zeigler Hall.

The resident instruction programs of IFAS, conducted through the College of Agriculture and the School of Forest Resources and Conservation, are concerned with educating young men and women for the nation's growing and increasingly complex agricultural industry. The curricula for the different fields of study are structured to provide the business, technological and science education necessary for graduates to meet the ever changing needs of a diverse and highly specialized agriculture, as well as related business and industry. All academic departments except Veterinary Science offer an undergraduate program leading to a Bachelor of Science in Agriculture. The School of Forest Resources and Conservation offers an undergraduate program which leads to the Bachelor of Science in Forest Resources and Conservation. Graduate programs at the masters level are offered by all academic units. The Doctor of Philosophy degree is offered in 13 specialties.

The mission of the research programs of IFAS is one of development, as well as improving existing technology to enable Florida's agricultural industry to become more efficient and improve its competitive position in relation to other geographic areas; to improve consumer health and nutrition and to improve the social and economic well-being of producers and consumers of agricultural commodities and resources. Through the vast network of 23 research and education centers, located in various areas of the state, applied as well as basic research efforts develop new and improved technology to meet the agricultural needs of Florida.

The transfer and application of knowledge through non-resident educational programs is the primary purpose of the extension programs of IFAS. These educational programs are tailored to fit the needs of the many audiences in areas of agricultural production, marketing and utilization; home economics; community resource development; and marine sciences. Audiences include adults and youth, rural and urban citizens, minorities and people from all economic levels. This extension program is administered by the University of Florida in cooperation with the various Boards of County Commissioners and the United States Department of Agriculture. Through the Cooperative Extension offices in all 67 Florida counties, the resources and services of IFAS and the University of Florida are made available to the agricultural industry and all Florida citizens.

In 1972, the Center for Community and Rural Development was established to provide statewide coordination of the IFAS research and education programs in community development for rural and non-rural metropolitan areas. This center is concerned with improving the economic conditions in these areas so that people have better employment opportunities and will remain in small communities rather than migrate to cities. Through support of undergraduate and graduate education the Center is assisting in the training of young people to provide leadership in planning and developing local programs. Courses of study in the economics of environmental quality, natural resource planning and development, rural income and employment, and regional economic planning help them make definite contributions toward improving the economic and social conditions of non-urban areas.

GENERAL INFORMATION

The Center for Environmental Programs and Natural Resources was created in October, 1973, to provide statewide coordination for the IFAS research and education programs concerned with solving some of the serious environmental and natural resources problems related to agriculture throughout Florida. The Center is involved in developing ways to protect managed agriculture ecosystems from environmental damage, integrating environmental practices into agricultural production technology and protecting and enhancing the quality of all of Florida's environment.

The creation of an Office of International Programs within IFAS in 1966, formalized the international commitment of IFAS. The Office of International Programs is responsible for administration, coordination and development of all activities which build or strengthen the international dimension of IFAS. This includes participation in the determination of contract and grant policy, development of outside funding sources for international research and training projects, and assistance in the initiation of new education programs. Integration of international programs into each department is a specific objective. This provides a unique opportunity for focusing maximum resources available to IFAS on the project. Both faculty in the state and those overseas benefit by the interchange of ideas. Education and research is handled under the same office by the Center for Tropical Agriculture established in 1965.

THE J. HILLIS MILLER HEALTH CENTER

The J. Hillis Miller Health Center at the University of Florida in Gainesville is a modern complex of institutions which advance human health and educate tomorrow's leaders in the health professions.

It is housed in a building complex which includes the College of Dentistry, the College of Health Related Professions, the College of Medicine, the College of Nursing, the College of Pharmacy and the new College of Veterinary Medicine which accepted 40 students in its charter class in September, 1976. The Shands Teaching Hospital and Clinics, which is the center for modern patient care and clinical training of new health professionals, is also located within the Health Center.

The north expansion of the Health Center's building program, the Communicore Building, became operational in 1974 and houses teaching laboratories, animal quarters, lecture halls, a library and a learning resources center. New facilities for the College of Dentistry became operational in 1975 and facilities for the College of Veterinary Medicine are now under construction as a part of the Health Center complex.

A Veterans Administration Hospital across from the Health Center is engaged in programs of patient care, teaching and research which are affiliated with the programs in the Health Center's colleges.

The Jacksonville Hospitals Education Program, Inc. which offers educational opportunity in clinical fields to students of the Health Center's colleges is an official division of the University of Florida.

The academic programs of the Health Center prepare students to understand that tomorrow's health care must focus on the community in order to achieve the comprehensive health care of man. The programs help them to understand that health care involves the health team: the physician; the nurse; the dentist; the pharmacist; persons in health related professions; the community; the researcher; the educator; the counselor; that by training together, and later by working together, these men and women contribute more effectively to a person's well being.

The health-oriented professions exchange information within the Health Center, and draw upon the other resources of the University to further man's understanding of health and illness.

Since the opening of its first units — the Colleges of Medicine and Nursing — in 1956, the Health Center has become a leading center for health care, education and research in the Southeast.

Located on the southern edge of the University of Florida campus, the Health Center was named for Dr. J. Hillis Miller, late president of the University whose vision and determination helped formulate the early planning of the health complex as an integral part of the University.

Admissions

APPLICATION FOR ADMISSIONS

Application for admission to any College, School or Division of the University must be made to the Admissions Section of the Office of the Registrar on the forms prescribed and by the dates indicated below. It is quite proper to correspond with Deans, Directors or Department Chairmen but such contact with University officers does not in any way eliminate the necessity for filing a formal application in the Office of the Registrar by the dates specified.

How to Apply: An applicant should address a request to the Admissions Section, Office of the Registrar, University of Florida asking for application forms. Forms and directions for completing applications vary with the level of entry at the University and the applicant should indicate that forms are being requested for admission as a Freshman, Undergraduate Transfer, Graduate, Dental, Law, Medical, or Special student, as the case might be.

GENERAL STATEMENT

The University encourages applications from qualified applicants of both sexes from all cultural, racial, religious, and ethnic groups.

A brief summary of the general requirements for admission or readmission to any college or division of the University is given below:

1. A satisfactory academic record
2. Satisfactory scores on achievement tests or examinations
3. A satisfactory conduct record

The specific requirements for readmission (at the same or a different level) of a student previously enrolled at the University of Florida are given in the STUDENT REGULATIONS section of this catalog. Consult the index for page number.

The specific requirements for admission to the University of Florida for the first time as a Freshman, Undergraduate Transfer, Graduate, Dental, Law, Medical, or Special student may be found in the appropriate sections which follow. **It should be understood, however, that minimum requirements are given and that admission to the University is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission.**

The admission requirements have been arrived at after a very careful study of the experiences of thousands of students over a long period of years. In every case minimum requirements have evolved from studies of student performance at the University of Florida. These studies have had as a primary objective the identification of factors that would indicate a reasonable chance for successful completion of University of Florida work.

The University Admissions Committee is the agency responsible for administering all admissions to the University and its various components.

Students who are planning to enter the University of Florida for the first time will be considered for admission as follows:

1. *Beginning Freshmen:* students who have never attended college. (See following section, ADMISSION AS A FRESHMAN).
2. *Undergraduate Transfers:* students who have previously attended any college or university, regardless of amount of time spent in attendance or credit earned, but who have not received a bachelor's degree. (See following section, ADMISSION AS A TRANSFER STUDENT TO UNDERGRADUATE SCHOOLS AND COLLEGES).
3. *Graduate Students:* candidates for Master's or Doctor's degrees. (See following section, ADMISSION TO GRADUATE SCHOOL).
4. *Dental Students:* candidates for admission to the College of Dentistry. (See following section, ADMISSION TO THE COLLEGE OF DENTISTRY).
5. *Law Students:* candidates for admission to the College of Law. (See following section, ADMISSION TO THE COLLEGE OF LAW).
6. *Medical Students:* candidates for admission to the College of Medicine. (See following section, ADMISSION TO THE COLLEGE OF MEDICINE).
7. *Special Students:* applicants who do not fall in one of the above categories. (See following section, ADMISSION AS A SPECIAL STUDENT).
8. *Transient Students:* applicants who wish to enroll for one term only in order to complete work for transfer back to parent institution. (See following section, ADMISSION AS A TRANSIENT STUDENT).

TRAVELING SCHOLAR PROGRAM

The Traveling Scholar Program affords graduate students at State University System institutions an opportunity to take course work or conduct research activities at any of the other institutions in the System. Course work taken under the auspices of the Traveling Scholar Program at another university in the System will apply for graduate credit at the student's home institution. The deans of the graduate schools of the State universities are the coordinators of the Program. For details regarding the Traveling Scholar Program and approval to participate in it, a student must apply to the dean of the graduate school on his home campus.

UNDERGRADUATE INTERINSTITUTIONAL REGISTRATION PROGRAM

The Undergraduate Interinstitutional Registration Program enables students at State University System institutions to take advantage of special resources and programs available on another campus in the System but not available at their home institution, e.g., special course offerings, research opportunities, unique laboratories, overseas study programs, and library collections. Course work taken under the Undergraduate Interinstitutional Registration Program will be accepted for credit at the student's home institution. A student must be recommended to participate in the Program by his own academic dean, who will initiate a visiting arrangement with the appropriate dean at the host institution.

PERSONAL HEALTH HISTORY REQUIREMENT

A personal health history completed by you and reported on forms supplied by the University Physician are required prior to initial enrollment at the University of Florida. If your application for admission is approved, the health history form will be forwarded to you for you to complete and return to the University Physician. Your form should be received by the University Physician at least two weeks prior to your planned date of entrance.

ADMISSION AS A FRESHMAN

(APPLICANTS WHO HAVE NEVER ATTENDED COLLEGE)

When to Apply: No application will be considered for the Freshman Class more than one year in advance of the date on which entrance is sought. The best time to apply is the early part of the Senior year in Secondary School. Priority in admission to the September class will be given to

qualified applicants whose applications are received in the Admissions Office prior to March 1st. Applications for the September class received after March 1st will be considered on a "space available" basis only. The deadlines for receipt of applications for other terms are listed in the University Calendar.

Admission of students is on a selective basis. The availability of community junior colleges and other state universities in Florida has caused the Board of Regents to assign to the University of Florida a role in the total state system of higher education which demands that the entering Freshman Class be limited in number. Such limitation does not prevent students from subsequently applying for admission to upper division and professional schools of the University since they may attend junior colleges or other universities and if qualified, then transfer to the University's upper division colleges in accordance with rules printed elsewhere in this Catalog.

The requirements for admission set forth below are designated to give priority to those applicants whose potential on the basis of their record indicates the greatest likelihood of success and the obtaining of maximum benefits from the University College program at the University of Florida.

A. Requirements for admission — Florida students

For consideration a student must meet the following minimums:

1. Graduation from an accredited secondary school.
2. Twelve academic units (such as English, Foreign Language, Mathematics, Science, and Social Studies).
3. A "C" average in academic courses.
4. A score in the top 40 percent (total score of 300) on the Florida Twelfth Grade Tests, or an equivalent score on the Scholastic Aptitude Test (SAT) or the American College Testing Program (ACT).
5. A record of good conduct. Major or continuing difficulty with school or other authorities may make an applicant ineligible regardless of his academic qualifications.

Any Florida student who meets the above minimum admission requirements and is interested in attending the University of Florida is urged to submit an application. The University will do everything possible to accept all qualified applicants who apply before the application deadline date. If the number of qualified applicants exceeds the number that the University is permitted to enroll, admission will be on a selective basis. An applicant's total high school record including grades, test scores, educational objective and pattern of courses completed, rank in class, school recommendation and personal record will be considered in the selection process.

Composite pictures of recent Freshman classes at the University of Florida indicate that approximately 70 percent rank in the top 20 percent of all high school Seniors on the basis of their admissions test scores. Approximately 50 percent of each entering class has earned a "B" or better average in high school academic subjects. While there is no minimum grade average or test score which in itself assures a student of admission or success in college, prospective Freshmen are urged to discuss the meaning and implication of these data with their school counselors before deciding whether to apply for admission to the University of Florida.

B. Requirements for admission — Non-Florida Students.

Because of a limited entering Freshman class, only a small number of highly qualified students from states other than Florida may be admitted. The minimum requirements for consideration are essentially the same as for Florida students except that priority in admission will be given to those applicants who present scores of at least 500 on each section of the Scholastic Aptitude Test of the College Entrance Examination Board and an academic average of "B" or better.

OTHER INFORMATION OF INTEREST TO PROSPECTIVE FRESHMAN APPLICANTS

OPPORTUNITIES FOR ACCELERATING COLLEGE GRADUATION

Early Admission

Applicants for Early Admission (i.e. admission following completion of the Junior year in high school) from superior students are encouraged and will be considered on an individual basis by the University's Admissions Committee. Applications should be submitted in accordance with deadlines published in the University Catalog.

In addition to the application, the following items are needed for processing Early Admission applicants.

1. A written statement by the student setting forth reasons for requesting early admission.
2. An official transcript of the applicant's secondary school record covering the 9th, 10th and 11 years. Generally, an overall academic average of B+ is expected.
3. Results of either the Scholastic Aptitude Test (SAT) or the American College Testing Program (ACT). Generally, a score of approximately 600 on each section of the SAT or a total score of 28 on the ACT is expected.
4. A letter of recommendation from the student's high school principal or guidance counselor. The letter should give specific reasons as to why the applicant would profit more from Early Admission than by completion of the Senior year in high school.

An applicant for Early Admission may be required to come to the campus for interviews by members of the Admissions Committee before a decision is made on the application. The Admissions Office will advise the applicant if interviews will be required after all of the above items have been received and evaluated. IMPORTANT: Please note that an applicant should NOT report for interviews until advised by the Admissions Office.

The University of Florida provides numerous opportunities other than *Early Admission* by which a student may accelerate graduation. For additional information, please refer to the section of this catalog entitled *Time Shortened Degree Opportunities*.

Florida Scholars Program. One hundred gifted and unusual students will be invited to begin their University studies after eleventh grade in a special program offered by University College and the College of Arts and Sciences. After early admission through the procedure described above, qualified students will be interviewed by members of the Florida Scholars Committee. Each student selected for participation in the Program will confer with a faculty specialist in the student's proposed field of study. This professor will continue as the student's mentor throughout the undergraduate years; together they will design an individual course of study leading to a bachelor's degree from the College of Arts and Sciences. This early association with a distinguished scholar-teacher is intended to encourage and develop the student's promise as a person and potential as a scholar or professional.

For information concerning this program, contact Dean, College of Arts and Sciences, 113 Anderson Hall.

Candidates' Reply Date. Applicants accepted for admission to the September Freshman class must indicate their enrollment plans within 30 days after acceptance.

Advance Housing Payment. Entering Freshmen are required to make a housing deposit within 30 days after acceptance as an indication of their plans to enroll. The housing deposit, less a $10.00 service charge, is refundable until May 1st for applicants accepted for admission to the September Freshman class.

Admission with Advanced Standing. The University of Florida is a participant in the Advanced Placement Program and in the College Level Examination Program (CLEP) of the

College Entrance Examination Board. Under the Advanced Placement Program a student entering the University offers a nationally graded examination as evidence of completion of a college level course taken in high school. Depending on the results of the examination, the student may receive University credit for courses covering similar material or exemption from such courses without credit. Under the College Level Examination Program, the University grants credit for satisfactory scores in each of the five areas of the CLEP General Examinations. For further information, please refer to the section of the Catalog entitled *Time Shortened Degree Opportunities*.

Early Decision for Superior Students. Students with superior secondary school records (academic average at least 3.5) and Junior year high school SAT test scores (approximately 600 each on the verbal and mathematics sections) may apply for early decision. The student must certify that this is his only application and this statement must be supported by the signatures of his parents and appropriate school official. The completed application must be received by November 1 and, if admitted, the student must make his commitment to attend the University of Florida, accompanied by his housing payment, by December 1.

ADMISSION AS A TRANSFER STUDENT TO UNDERGRADUATE SCHOOLS AND COLLEGES

(APPLICANTS WHO HAVE ATTENDED ANY COLLEGE OR UNIVERSITY, REGARDLESS OF THE AMOUNT OF TIME SPENT IN ATTENDANCE OR CREDIT EARNED, ARE CONSIDERED AS TRANSFER STUDENTS.)

When to Apply: Applications may be submitted not more than one year in advance and applicants are strongly urged to apply at least six months prior to the date they plan to enter. Applications will not be accepted after the deadline date for the term as indicated in the University Calendar published in this catalog. The applicant who waits until the last possible date to file his application may find that he is unable to furnish the necessary supporting records in time to permit a decision for the term in which he desires to enter.

NOTE: In the undergraduate programs of the College of Health Related Professions and the College of Pharmacy, the sequence of professional courses begins ONLY in the Fall Quarter of the Junior year. Applications for admission to the College of Health Related Professions for September enrollment must be received by the preceding March 15th.

In this section are listed the general requirements for admission of undergraduate transfer students. It should be observed however, that ADMISSION TO THE UNIVERSITY IS A SELECTIVE PROCESS AND SATISFYING THESE GENERAL REQUIREMENTS DOES NOT GUARANTEE ACCEPTANCE. Attention is also directed to the fact that Upper Division colleges of the University have established enrollment quotas because of limitations of space and facilities. Transfer applicants who meet the minimum admission requirements will be referred to the selection committee of the appropriate college for consideration of their enrollment within the college's established quotas.

A transfer applicant should refer to the General Information and Colleges sections of this catalog for an explanation of the academic organization of the University.

If an applicant is accepted for admission, courses completed at other accredited institutions with grades of "D" or higher which reasonably parallel the curriculum of the University of Florida will be accepted for transfer. However, it is the prerogative of the college (within the University) administering the work for the degree sought to determine how transfer credits may be used in satisfying degree requirements. No more than 64 semester hours (96 quarter hours) of credit transferred from or through a junior college may be applied toward the quantitative requirements for a University of Florida degree.

A. FLORIDA PUBLIC JUNIOR COLLEGE GRADUATES

This section applies ONLY to students seeking to transfer directly from a Florida public junior college with the Associate in Arts degree in a university parallel program. All other junior college applicants and undergraduate transfer applicants from four-year or upper division colleges and university should consult Section B which follows.

The University of Florida subscribes to the Articulation Agreement between the State Universities and Public Junior Colleges of Florida. Under this agreement, any graduate of a State approved Florida public junior college is eligible for admission to the University if the student has completed the university parallel program and received the Associate in Arts degree, provided the degree has been awarded on the basis of the following:

1. At least 60 semester hours (90 quarter hours) of academic work exclusive of occupational courses and basic required physical education courses;
2. An approved general education program of at least 36 semester hours (54 quarter hours);
3. A grade point average of at least 2.0 on a 4.0 system on all college level academic courses attempted.

NOTE: All applicants for admission to the University of Florida must present scores on an acceptable general ability test. In the case of applicants who have graduated from a Florida public junior college with the Associate in Arts degree, this information is required for counseling and research purposes only and the score achieved on the test will not be used as a criterion for admission. However, the required test information must be received by the Admissions Office before an application can be given final approval. Please see item 4 *Satisfactory test scores* in the following section for information concerning acceptable tests.

Within space and fiscal limitations, applicants who have satisfied the above minimum requirements will be considered for admission at the Junior level to an Upper Division college. Such students may be required to take additional preprofessional courses not completed at the junior college. However, such courses will not reduce the number of credits required in the Upper Division for a degree.

B. TRANSFER APPLICANTS OTHER THAN GRADUATES FROM A FLORIDA PUBLIC JUNIOR COLLEGE

This section applies to students seeking to transfer from a Florida public junior college without an Associate in Arts degree in a university parallel program and to all undergraduate transfer applicants from other colleges or universities.

1. Requirements for admission to the University College.

1. *Eligible for admission as a beginning Freshman.* An applicant must have been eligible for admission to the University of Florida as a beginning Freshman in order to be considered for admission to the University College as a transfer student. (See section, ADMISSION AS A FRESHMAN).

2. *Good standing.* An applicant must be in good standing and eligible to return to any institution previously attended. A student who for any reason will not be allowed to return to an institution previously attended cannot be considered for admission to the University of Florida.

3. *Satisfactory record:* An applicant must have an average of "C" or higher (as computed by the University of Florida) on all work attempted at each institution previously attended. No application can be considered until complete official transcripts of all the applicant's undergraduate work are in the possession of the Admissions Office. An official transcript must be furnished from each institution attended regardless of length of attendance or credit earned. Official supplementary transcripts are required, as soon as they are available, for any work completed after making application. Since an average of "C" or higher is required for graduation from the University of Florida, one who has failed to

maintain this average at another institution is not eligible for admission. Regardless of the average earned, courses completed at other institutions must reasonably parallel the curriculum at the University of Florida.

4. *Satisfactory test scores:* An applicant must present satisfactory scores on an acceptable general ability test. Any of the following tests may satisfy this test requirement. If taken prior to first enrollment in college, the Florida Twelfth Grade Placement Test, the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board, or the American College Testing Program (ACT) will be considered. Otherwise, the applicant should furnish scores on the School and College Ability Test, College Level (SCAT). The minimum acceptable score on these tests will vary with the amount and quality of academic study the applicant will have completed prior to transfer.

5. *Satisfactory conduct record:* An applicant must present a satisfactory conduct record. Regardless of other qualifications, an applicant who has experienced serious or continuing difficulty with school or other authorities because of improper conduct may find his application disapproved.

II. Requirements for admission to an Upper Division College.

With the exception of item 1, an applicant for admission to an Upper Division College must satisfy the requirements listed above for admission to the University College. In addition, the following requirements must also be satisfied:

1. *Advanced Standing credit.* An applicant must present a minimum of 64 semester hours (or 96 quarter hours) of acceptable college courses, not more than four semester hours of which are in Military Science and/or basic required Physical Education as credit for advanced standing.

2. *Specific course requirements.* An applicant must present the courses listed as required for admission by the Upper Division college of his choice, or acceptable substitutes, as part of the courses offered for advanced standing credit. (See appropriate college section of this catalog). Upon recommendation by the Upper Division college, an applicant lacking some of the specific course requirements may be permitted to enroll in that college and complete them if he meets all other requirements for admission, however, such Lower Division courses will not reduce the number of credits required in the Upper Division for a degree.

ADMISSION TO THE GRADUATE SCHOOL

When to Apply: Applications can be accepted as late as the final date listed in the Graduate Catalog. Because the final decision on admission to Graduate study has to be made by the Colleges and time is required to prepare the materials for their consideration, it is strongly urged that applications be made well in advance of this final date.

Application for admission to the Graduate School must be made to the Admissions Section, Office of the Registrar on forms supplied by that office and at the times stipulated in the University Calendar. Applications which meet minimum standards for admission are referred to the graduate selection committees of the various colleges and divisions for approval or disapproval.

No application will be considered unless the complete official transcripts of all the applicant's undergraduate and graduate work are in the possession of the Admissions Section and no transcript will be accepted as official unless it is received directly from the Registrar of the institution in which the work was done. Official supplementary transcripts are required, as soon as they are available, for any work completed after making application.

In general, no student who is a graduate of a non-accredited institution will be considered for graduate study in any unit of the University.

All foreign students whose native tongue is not English making application for admission to the Graduate School of the University of Florida must present their scores on TOEFL (Testing of English as a Foreign Language). Each applicant is asked to write TOEFL Educational Testing Service, Princeton, New Jersey, U.S.A., requesting a Bulletin of Information and registration form. It is important to remember that final consideration can not be granted a foreign student's application for admission until his scores on this test are received by: Admission Section, Office of The Registrar, University of Florida, Gainesville, Florida, U.S.A.

Undergraduate Record: Unqualified admission to the Graduate School is dependent upon the presentation of a baccalaureate degree from an accredited college or university with an average of B for the Junior and Senior years. In some units of the Graduate School and on the more advanced levels of graduate study, an undergraduate average considerably above B may be required. In some units admission may be considered with an undergraduate average slightly below B. College graduate admission selection committees take into account not only the general grade average, but the distribution of work and the quality and extent of preparation for the graduate program which the student proposes to undertake.

While the general admissions requirements described above apply to both master's and doctoral candidates, it should be noted that doctoral candidates must meet certain additional requirements, which vary according to the programs, established by the departments and colleges. Furthermore, it is desirable for students planning to enter certain colleges and departments to have a reading knowledge of one foreign language.

Graduate Record Examination: A satisfactory average score on the Graduate Record Examination is required for admission. Each applicant for admission must submit scores on the aptitude test of the GRE, but either at the request of the department concerned or on his own volition, the applicant is encouraged to submit in addition the score on one or more advanced subject-matter tests of the GRE. The scores on all tests taken will be weighed in regard to admission.

The GRE is given six times a year — in October, December, January, February, April and June — at a great many locations in the United States, including Gainesville, Florida. To determine exact dates and the most convenient locations, students should write to the Educational Testing Service, Princeton, New Jersey. Applications are required several weeks prior to the examination, and scores are received about a month after the examination. Hence, it is necessary to apply for the GRE in early September for admission in January, in early December for admission in March, in early January for admission in June, and in early March for admission in September. Other examinations are given for which application must be made in November and May but the ones listed above are correlated with admission deadlines.

ADMISSION TO THE COLLEGE OF DENTISTRY

When to Apply: The Application Request Card for the American Association of Dental Schools Application Service (AADSAS) may be obtained after May 15, from the Office of Admissions, College of Dentistry. The request card should be sent directly to the AADSAS, P.O. Box 1003, Iowa City, Iowa 52240. Upon receiving the application materials from the AADSAS, the completed forms and supporting documents must be returned directly the AADSAS no later than October 15, of the year prior to anticipated enrollment in dental school. Failure to meet this deadline will prevent the Dental Admissions Committee from evaluating your record.

The data compiled by the AADSAS will be carefully evaluated by the Dental Admissions Committee and promising

applicants will be sent Formal Application forms which request additional information. The submission of a pre-professional committee evaluation or letters of recommendation from people in academics will not be necessary until the Formal Application forms are filed. The Formal Application forms and supporting materials should be submitted as early as possible, but no later than November 15, of each application year.

The College of Dentistry aspires to attract students of the highest caliber into its various programs. High standards of scholastic achievement, moral character, and motivation are expected of the applicant. The student of dentistry must possess a high basic aptitude supplemented by an academic preparation of the highest order because of the vast area of science which must be mastered by the dentist. The highly personal relationship between patient and dentist places the latter in a position of trust, which demands maturity, integrity, intellectual honesty, and a sense of responsibility. A broad representation of the ethnic mixture of the State is sought in the student body through an active recruitment program. The College strictly adheres to the principle of ethnic, racial, religious and social equality among its student body and faculty.

Generally, students applying for admission should plan to complete the requirements for a bachelor's degree. However, qualified students may be accepted without fulfilling the degree requirements, provided they show evidence of sufficient preparation for the study of dentistry. Applicants with an overall "B" average as a minimum will receive strongest consideration for admission to the College of Dentistry. Applicants over the age of thirty rarely will be given strong considerations.

Every applicant must take the Dental Admission Test, preferably in the Spring preceding the submission of his Initial Application or, at the latest, the Fall testing period. The test is given three times a year at many college and university testing centers. Following a review of all application materials and Dental Admission Test scores by the Dental Admissions Committee, interviews with members of this Committee will be arranged for competitive applicants.

(See also more detailed description in the College of Dentistry bulletin.)

ADMISSION TO THE COLLEGE OF LAW

When to Apply: Applications can be accepted as indicated in the College of Law Catalog.

Beginning Students: All applicants for admission to the College of Law must have received a baccalaureate degree from a regionally accredited college or university and achieved a satisfactory score on the *Law School Admission Test.*

The minimum acceptable score on the Law School Admission Test required for admission varies with the total grade point average achieved by the applicant on all college work attempted by the applicant prior to receipt of the first bachelor's degree. The lower the grade point average, the higher the Law School Admission Test Score must be to qualify for admission. All applicants (including present and former University of Florida students) must register with the Law School Data Assembly Service (LSDAS) in lieu of requesting transcripts from each institution of higher education attended. For more detailed information on admission to the College of Law, please see the College of Law Catalog.

Advanced Standing Students: For information on admission to the College of Law with advanced standing see the College of Law Catalog.

ADMISSION TO THE COLLEGE OF MEDICINE

When to Apply: Because the number of places in the first year class of the College of Medicine is limited, it is important that a candidate make application as early as possible during the Summer or Fall of the year preceding his intended date of entry.

Personal qualities of high order — character, responsibility and maturity — are the primary requirements for admission. The student must have demonstrated superior intellectual achievement. A bachelor's degree is strongly recommended. The quality of the academic background as well as the performance of the student in relation to the load attempted, will be weighed. A genuine interest in human welfare is important. Efficient methods of study and effective powers of reasoning are essential.

The College admits both men and women. A limited number of out-of-state students, in proportion to the number in the University as a whole, may be admitted. Applicants over the age of thirty rarely will be given strong consideration. Students who have failed academically or are ineligible to continue in another medical school will not be admitted.

Applications from students who are presently enrolled in another medical school will be considered provided (1) the student is eligible to continue in his present medical school, and (2) the school he is now attending is a member of the Association of American Medical Colleges. Applications will also be considered from students who have successfully completed work at an accredited two-year medical school.

Prospective applicants must take the Medical College Admissions Test, preferably, by the Spring preceding the submission of the application. A personal interview will be required for final acceptance.

Graduate students who are candidates for the Ph.D. degree in medical sciences should apply through the Graduate School.

(See also more detailed description in the College of Medicine catalog.)

ADMISSION AS A SPECIAL STUDENT

When to Apply: Each application for admission as a special student must be reviewed by the University Admissions Committee. Applications cannot be considered if they are received after the dates specified in the Catalog; and it would be desirable for a person considering application as a special student to initiate such an application at least three months in advance of the term he wishes to enter, in order to allow time for additional evidence to be presented if it should be requested by the Admissions Committee.

Special students may be admitted to the various schools and colleges of the Upper Division only by approval of the University Admissions Committee. Each case will be considered on an individual basis. Applications for admission as a special student must include: (1) records of previous educational experience (high school or college transcripts); (2) a statement as to the type of studies to be pursued; (3) a brief statement of the reason or reasons for selecting a special program other than a regular one; (4) satisfactory evidence of ability to pursue these studies — for example, a student to enroll as a special student for some technical courses and who feels qualified to do so by reason of employment or other experience; (5) satisfactory scores on such ability or achievement tests as may be prescribed in individual cases by the University Admissions Committee.

ADMISSION AS A TRANSIENT STUDENT

Subject to availability of faculty, space and facilities, a regular undergraduate student in good standing at another accredited collegiate institution may be permitted to enroll at the University of Florida as transient student in order to

complete work to transfer back to the parent institution. No evaluation will be made of work previously completed and it is the student's responsibility to secure such approval as the parent institution may require.

Transient students are registered as NON-DEGREE students and no application for admission is required. The appropriate forms of enrolling as a NON-DEGREE student should be requested from the Office of the Registrar.

Enrollment as a NON-DEGREE student in no way implies future admission as a regular student to the University of Florida.

ADMISSION INFORMATION FOR VETERANS ADMINISTRATION, AND SOCIAL SECURITY

The University of Florida is approved for the education and training of veterans under all public laws now in effect, i.e., Chapter 31, Title 38, U.S. Code (Disabled Veterans), Chapter 34, Title 38, U.S. Code (Cold War G.I. Bill), and Chapter 35, Title 38, U.S. Code (Children of Deceased or Disabled Veterans). Students who may be eligible for educational benefits under any Veterans Administration program are urged to contact the local Veterans Administration representative as soon as accepted by the University. Students expecting to receive benefits under one of these programs must file an application for benefits. No certification can be made until the application is on file. Benefits are determined by the Veterans Administration and the University certifies according to their rules and regulations.

Inquiries relating to Social Security Benefits should be directed to the student's local Social Security Office. The Office of the Registrar will submit enrollment certificates issued by the Social Security Administration for students eligible to receive educational benefits under the Social Security Act, providing the student registers for twelve quarter hours or more.

A full time load for VA or Social Security benefits is twelve hours per quarter for undergraduates.

ADMISSION INFORMATION FOR FOREIGN STUDENTS

All foreign students whose native tongue is not English making application for admission to the University of Florida must present their scores on TOEFL (Test of English as a Foreign Language). Each applicant is asked to write TOEFL, Educational Testing Service, Princeton, New Jersey, U.S.A., requesting a Bulletin of Information and registration form. It is important to remember that final consideration cannot be granted a foreign student's application for admission until his scores on this test are received by: Admission Section, Office of the Registrar, University of Florida, Gainesville, Florida, 32601, U.S.A.

Expenses

APPLICATION FEE

Each application for admission to the University must be accompanied by an application fee of $15.00. Application fees are nonrefundable. Further instructions will be found in the Admissions section of this catalog.

GENERAL

STUDENTS SHOULD BRING SUFFICIENT FUNDS, OTHER THAN PERSONAL CHECKS TO MEET THEIR IMMEDIATE NEEDS. Personal checks will be accepted for the exact amount of fees.

CLASSIFICATION OF STUDENTS — FLORIDA OR NON-FLORIDA

For the purpose of assessing registration fees, students shall be classified as Florida and non-Florida. A Florida student is a person who shall have resided and had domicile in the State of Florida for at least twelve (12) months immediately preceding the first day of classes of the current term.

In applying this policy "student" shall mean a person admitted to the institution. If such person is a minor, it shall mean parents, parent, or legal guardian of his or her person.

The word "minor" shall mean a person who has not attained the age of 18 and whose disabilities of minority have not been removed by reason of marriage or by a court of competent jurisdiction.

The word "domicile" for fee-paying purposes shall denote a person's true, fixed, and permanent home and place of habitation. It is the place where he intends to remain, and to which he expects to return when he leaves without intending to establish a new domicile elsewhere.

The word "parent" shall mean a minor's father; or mother; or if one parent has custody of his person, the parent having custody; or if there is a guardian or legal custodian of his person, then such guardian or legal custodian.

In all applications for admission by students as citizens of Florida, the applicant, or, if a minor, his parents or legal guardian shall make and file with such application a written statement under oath that such applicant is a bonafide citizen, resident, and domiciliary of the State of Florida entitled as such to admission upon the terms and conditions prescribed for citizens, residents, and domiciliaries of the State.

A non-Florida student is a person not meeting the requirements outlined above. A non-Florida student (or if a minor, his parent or parents) after having been a resident and domiciliary of Florida for twelve months may apply for and be granted reclassification prior to the first day of classes of any subsequent term, provided, however, that those students who are non-resident aliens or who are in the United States on a non-immigration visa will not be entitled to reclassification. However, for fee-paying purposes, Cuban nationals and Vietnamese refugees will be considered as resident aliens. Such applications shall comply with the provisions of the preceding paragraph. In addition, the application for reclassification must be accompanied by a certified copy of a declaration of intention to establish domicile filed with the Clerk of the Circuit Court as provided by Section 222.17. Florida Statutes.

Unless the contrary appears to the satisfaction of the registering authority of the institution at which a student is registering it shall be presumed that:

1. The spouse of any person who is classified or is eligible for classification as an in-state student is likewise entitled to classification as an in-state student.

2. A minor whose parent is a member of the armed forces and stationed in this state pursuant to military orders is entitled to classification as an in-state student. The student, while in continuous attendance, shall not lose his residence when his parent is thereafter transferred on military orders. A member of the armed forces of the United States stationed in this state on military orders shall be entitled to classification as an in-state student while on active duty in this state pursuant to such orders.

3. No person over the age of 18 years shall be deemed to have gained residence while attending any educational institution in this State as a full-time student, as such status is defined by the Board of Regents, in the absence of a clear demonstration that he has established domicile in the State.

4. Any person who remains in this State when his parent, having theretofore been domiciled in this State, removes from this State, shall be entitled to classification as a Florida student, so long as his attendance at a school or schools in this State shall be continuous. Attendance at a school or schools in this State shall be deemed "continuous" if the person claiming continuous attendance has been enrolled at a school or schools in this State as a full-time student, as such term is defined by the Board of Regents, for a normal academic year in each calendar year, or the appropriate portion or portions of such years, thereof, since the beginning of the period for which continuous attendance is claimed. Such persons need not attend Summer sessions or other intersessions beyond the normal academic year in order to render attendance "continuous."

Any student granted status as a Florida student which status is based on a sworn statement which is false shall, upon a determination of such falsity, be subject to such disciplinary sanctions as may be imposed by the president of the university, which sanctions may include permanent expulsion from the State University System or any lesser penalty.

The following categories shall be treated as Florida residents for tuition purposes:

1. Veterans of the United States of America retired with twenty (20) years or more of active military service, including dependent members of their immediate families, who are in Florida at the time of retirement, or who move to Florida within one year following retirement and intend to make Florida their permanent home.

2. Full-time elementary, secondary and junior college faculty members under current teaching contracts in the State of Florida.

3. Full-time faculty and career employees of the University System and members of their immediate families.

To establish Florida residence a student applying for admission should complete the residence affidavit on the application form.

To change status from non-Florida a student must present to the Registrar's Office a copy of the Declaration of Intent and the completed Residence Affidavit Form. To claim the military exception the student must furnish the Registrar's Office a copy of the military orders showing assignment to Florida. A public school official must submit a written statement from his superior as to his public school status. A University employee must submit a statement from his employer as to his employment status.

REGISTRATION AND INSTRUCTIONAL FEES

The University Calendar appearing at the front of this Catalog sets forth the beginning and ending dates of each quarter.

THE FOLLOWING FEES AND CHARGES ARE PROPOSED AT THIS TIME. HOWEVER, SINCE THE CATALOG MUST BE PUBLISHED IN ADVANCE OF ITS EFFECTIVE DATE IT IS NOT ALWAYS POSSIBLE TO ANTICIPATE CHANGES AND

THE FEE SCHEDULE MAY BE REVISED. EVERY EFFORT WILL BE MADE TO PUBLICIZE CHANGES FOR ANY QUARTER IN ADVANCE OF THE REGISTRATION DATE FOR THAT QUARTER.

Fees are payable on the dates listed in the University of Florida Calendar appearing at the front of the Catalog or the dates shown on statements sent those participating in Advance Registration. Payment of fees is an integral part of the registration process. Registration (including payment of fees) must be completed on or before the proper due date. Student Accounts, The Hub, must be provided a properly executed authorization for payment in cases where fees are to be paid by a previously approved loan, scholarship, etc., prior to the deadline published in the Calendar.

FEE LIABILITY

LIABILITY IS INCURRED FOR ALL CREDIT HOURS REMAINING ON A STUDENT'S SCHEDULE AT THE CLOSE OF THE DROP/ADD PERIOD EACH QUARTER.

ASSESSMENT OF FEES

Students must assess and pay their own fees. UNIVERSITY PERSONNEL WILL NOT BE HELD ACCOUNTABLE FOR PROPER ASSESSMENT OR MATHEMATICAL ACCURACY OF CALCULATIONS. Students should assess their fees in accordance with the table of charges below:

COURSE FEES Charge per Credit Hour

			Summer Course Fees	
Course No.	Florida Students	Non-Florida Students	Florida Students	Non-Florida
0-299	$15.00	38.00	9.00	32.00
300-499	16.50	51.50	10.50	45.50
500-999 (excluding 699 & 799)	22.00	62.00	22.00	62.00
699 & 799 (Thesis & Dissertation)	24.00	64.00	24.00	64.00

STUDENTS ENROLLED IN THE M.D., D.M.D., OR D.V.M. PROGRAMS

A Florida student will pay $449.00 for each quarter of enrollment. A non-Florida student will pay $1,017.00 for each quarter of enrollment. (These amounts include the $10.00 Student Health Fee.)

NOTE: A student registered for twelve (12) hours per quarter is considered as full-time for Veterans Administration and Social Security benefits, and Student Financial Aid.

STUDENT HEALTH FEE

STUDENTS REGISTERED FOR NINE OR MORE CREDIT HOURS PER QUARTER ARE REQUIRED TO PAY A $10.00 STUDENT HEALTH FEE. The student health fee is optional for students registered for eight hours or less.

LATE REGISTRATION

A fee of $25.00 will be assessed against students who fail to initiate registration during the registration period or who fail to pay fees within the time period specified.

REINSTATEMENT FEE.

A fee of $25.00 will be assessed against students reinstated who have had their initial registration canceled during a quarter for nonpayment of fees. The reinstatement fee shall be in addition to the late registration fee.

DEADLINES

Students are reminded that deadlines are strictly enforced. The University does not have the authority to waive the late and/or reinstatement fees unless it has been determined that the University is primarily responsible for delinquency in a student account or that extraordinary circumstances warrant such waiver.

LOCAL ADDRESS

IT IS THE RESPONSIBILITY OF THE STUDENT TO BE SURE THAT A CORRECT CURRENT LOCAL ADDRESS IS ON FILE WITH THE REGISTRAR AT ALL TIMES. Change of Address forms may be obtained from the Registrar's Office.

PICTURE I.D.

A CURRENT VALID PHOTO I.D. MUST BE PRESENTED IN ORDER TO TRANSACT BUSINESS AT THE OFFICE OF STUDENT ACCOUNTS.

SPECIAL FEES AND CHARGES

AUDIT FEE. Fees for audited courses are the same as those listed above for Florida students. The audit fee is the same for Florida and non-Florida students.

COLLEGE LEVEL EXAMINATION PROGRAMS. Examinations are administered on campus during the third week of each month. Applications should be completed in the Office of Instructional Resources, 408 Seagle Building before the first day of the month in which a test is to be taken. The fee for one general examination is $20.00, for two examinations, $30.00 and for 3-5 examinations, $40.00. Subject examinations are $20.00 each. Checks should be payable to College Level Examination Program.

GRADUATE RECORD EXAMINATION. The Aptitude Test of the Graduate Record Examination is required for admission to the Graduate School. A fee of $10.50 covers the cost of this examination. Students who take one of the Advanced Tests of the Graduate Record Examination in combination with the Aptitude Test pay a fee of $21.00 These fees are payable to the Educational Testing Service, Princeton, New Jersey 08540.

GRADUATE SCHOOL FOREIGN LANGUAGE TEST. All students wishing to be certified as proficient in a reading knowledge of French, German, or Spanish, must take the Educational Testing Service (ETS) Graduate School Foreign Language Tests. A fee of $12.50 covers the cost of each examination. This fee is payable to Student Accounts, The Hub. Administrative arrangements to register for this examination will be made through the Graduate School Office.

LIBRARY BINDING CHARGE. Candidates for a graduate degree with a thesis or dissertation pay a $10.00 charge for the permanent binding of the two copies deposited in the University of Florida Library. This charge is payable at Student Accounts, The Hub, by the date specified in the Graduate Catalog. A copy of the receipt must be presented at the Graduate School office.

REFUND OF FEES

1. Fees will be refunded in full for:
   a. Credit hours dropped during the drop/add period.
   b. Courses cancelled by the University.
2. With the exception of amounts required for collection under bond and trust obligations, fees may be refunded in instances of:
   a. Involuntary call to active duty.
   b. Death of a student.
   c. Illness of the student of such duration or severity, as confirmed by a physician, that completion of the quarter is precluded, or
   d. Exceptional circumstances, upon approval of the University President.

Refunds may be obtained at Student Accounts, THE HUB, upon presentation of proper documentation.

PAST DUE STUDENT ACCOUNTS

All students' accounts are due and payable at Student Accounts, The Hub, at the time such charges are incurred.

University regulations prohibit registration, graduation, granting of credit or release of transcript for any student whose account with the University is delinquent.

Student Affairs

The following information describes the responsibilities of the various offices charged with assistance to students at the University of Florida. Additional information may be found in THE FLORIDA STUDENT GUIDE and THE CAMPUS DIRECTORY.

VICE PRESIDENT FOR STUDENT AFFAIRS

The Office of the Vice President for Student Affairs is a focal point for student concerns and strives to make the educational experience for students at the University of Florida as meaningful as possible. The Vice President for Student Affairs works to maintain and improve good communications and working relationships among and between students, faculty, and administration.

The goals of the Division of Student Affairs include: developing effective and efficient services and programs for students through the various departments within Student Affairs; integrating student affairs and academic affairs; directly involving students in the affairs of the institution; encouraging a sense of community among students, faculty, and administration; and increasing accessibility to and attractiveness of the University of Florida to a wide variety of persons.

The Office of the Vice President for Student Affairs is located in 123 Tigert Hall and is open to assist individual students and groups in matters concerning them. All students are encouraged to share in the responsibility for enabling the various divisions of the University of Florida community to meet the needs of students.

The Office of the Vice President for Student Affairs has administrative responsibility for the following offices and programs at the University of Florida: Office for Student Services, Student Housing Office, Office for Student Financial Affairs, Career Resources Center, J. Wayne Reitz Union, and University Counseling Center.

OFFICE FOR STUDENT SERVICES

The basic commitment of the Office of the Dean for Student Services at the University of Florida is to the total development of each individual student so that he or she might achieve full potential as a human being. Staff members strive to help students become self-directive in all their activities. The staff feels it can most effectively be helpful to students by reaching them "where they live," in real life situations.

The purposes of the Office for Student Services are to contribute to the attainment of the educational goals of the University of Florida by: helping to structure appropriate experiences for the intellectual, psychological, social and physical development of each student; providing opportunities for students' need for personal attention; assisting students in the development of their career objectives; making students aware of and encouraging the use of the resources of the university; interpreting the goals, objectives, and actions of the institution to students; encouraging the development of a sense of community among students, faculty, and staff; helping students to develop purpose in their lives — a system of values of which they are aware and a sense of personal integrity; and assisting in the development of university policy and procedures.

Functions emerge from purposes, and the Office for Student Services at the University of Florida carries on these functions: individual advising, student advising, new student programs, fraternity and sorority coordination, minority student affairs, veteran student affairs, committee responsibility for student petitions and admissions, married student programs, women's programs, mature student programs, commuter student services, student judicial affairs, off-campus student programs and services, and student withdrawals.

The International Student Center and the Institute of Black Culture are also operational units of the Office for Student Services.

INTERNATIONAL STUDENT SERVICES

The International Student Services center assists international students in adjusting to the changing life style and study habits in a new and sometimes perplexing environment. Special services are provided related to foreign educational and cultural backgrounds; language, legal, employment, academic, and personal matters; U.S. immigration and other government agency responsibilities as aliens; and currency exchange. The focus is on helping international students achieve their educational goals, while providing an insight into the culture of the United States through a program of social activities, orientation seminars, and community visits.

INSTITUTE OF BLACK CULTURE

The Institute of Black Culture is an educational tool for students at the University of Florida. It is a facility for enlightenment and black awareness where Afro-Americans can focus on their history, literature, art, culture, and life style. It is also a place where whites can develop a better understanding of blacks and an appreciation of black contributions to American society. The center sponsors programs, exhibits, and related activities.

STUDENT HOUSING

The Director of Housing administers, supervises, and coordinates all programs and operations in the residence halls, the apartment villages, and the Off-Campus Housing Office.

GENERAL INFORMATION

All Freshmen who apply for admission to the University will receive Housing Agreements upon approval of admission. No application for housing is made by beginning Freshmen.

The University of Florida has no residency requirement. Entering students are free to choose either on-campus or off-campus accommodations. Students who voluntarily contract for on-campus housing normally must do so for the entire academic year (September to August) if enrolled.

All non-beginning Freshmen must initiate their arrangements for housing either by (1) applying to the Director of Housing for assignment to university housing facilities, or (2) obtaining accommodations in private housing (see Off-Campus Housing Section).

All correspondence concerning application for University Housing should be addressed to the Director of Housing, University of Florida, Gainesville, 32611. An application for residence hall space for students other than Freshmen may be filed at any time after an application for admission to the University has been made. Prospective students are urged to apply as early as possible because of the housing demand.

Roommate requests shall be considered if the individuals wishing to room together submit their applications on the same date, clearly indicate their desire to room together on their respective applications, elect the same visitation choices, and are within similar academic classification.

HOUSING ADMINISTRATION AND STAFF

ORGANIZATION—University residence halls have been designed and organized to emphasize the importance of the individual student in small living groups. Each hall provides opportunities for formal and informal educational programs, together with social and recreational activities. Many residents find their hall the center of their out-of-class interests. Programs and activities vary from hall to hall

and from year to year, since they are based on the needs and interests of the students.

STAFF—In all residence halls or housing areas, professionally trained Directors of Residence Life, Residence Life Coordinators, Hall Advisers, and student Resident Assistants are well qualified to assist with group and individual activities, as well as with matters of personal concern to student residents. In each living unit (floor or section), resident assistants and student leaders provide group leadership and guidance.

SELF GOVERNMENT—All students in the residence halls are entitled to participate in organizational activities which can play a significant part in their educational, cultural, social, and recreational life. Officers and representatives are elected to hall and area councils which govern group activities and help establish standards for group living.

In all residence halls, an annual activity fee (optional) of $5.00 is collected and administered by the hall organization to meet expenses of activities and programs.

ROOM FURNISHINGS—Rooms are equipped with beds, mattresses, mattress pads, waste baskets, desks, chairs, closets, chest-of-drawers, and venetian blinds. Residents are encouraged to obtain their own drapes, pictures, bedspreads, rugs, and desk lamps after arrival at the University.

LINEN SERVICE—All students assigned to residence halls may elect for a basic linen service. The charge is $13.00 extra per quarter. This service entitles a student to two sheets, one pillowcase, and three towels per week. Extra linens or additional items such as blankets, pillows, and desk lamps may be rented at a nominal cost.

TELEPHONE SERVICE—Room telephones are available in all of the residence halls except those designated as co-ops. Each room telephone provides 24-hour service on campus and within the Gainesville area. Charges for long distance calls are billed monthly to the room phone by the Southern Bell Telephone Company and residents pay directly to the company. The basic cost for local room telephone service is included in the room rent.

RENTAL REFRIGERATORS—Refrigerators will be available in some residence areas and the cost is included in the quarterly rate. Students may bring their own individual refrigerators to any residence area where refrigerators are not permanently installed. Students must make their own arrangements for installation and removal of private refrigerators. Students who bring private refrigerators to rooms which are already furnished with refrigerators will not receive a refund for the University refrigerator.

SWIMMING POOLS—Swimming pools are located adjacent to the Graham Area and the Yulee Area and are available for use of students, staff, and faculty of the University.

RESIDENCE HALLS FOR SINGLE STUDENTS

Some variety in types of accommodations is provided by the University. The double room for two students is the most common type. Several of the larger rooms or suites are designated as triple rooms. Single rooms are available in limited number, suites for two students are available in several of the residence halls. Each suite consists of two connected rooms—a bedroom and a study room.

Beaty Towers, Hume Hall, Graham Area, Tolbert Area, and Jennings Hall are totally air-conditioned. Other residence halls, where student rooms are not air-conditioned, provide centrally located air-conditioned study and recreation rooms.

1. EAST CAMPUS

BROWARD/RAWLINGS AREA (coeducational): The Broward complex housing 600 male and female students, while the Rawlings complex accommodates 360 male and female students. Although student rooms are not air conditioned, public facilities which are air conditioned include main lounges, libraries, recreation rooms, television rooms, cafeterias, and a sundry shop. Each floor has a community bathroom, a study room, and a community kitchen.

JENNINGS/YULEE AREA (coeducational): The Jennings/Yulee residence area houses about 850 students. Jennings Hall is air conditioned; Yulee Area is not air conditioned. In Jennings Hall, men and women live in opposite wings separated by a central office and public lobby. Single and double rooms are available and some rooms can be converted to suites. Each floor has community bath facilities and a study room. Community kitchens on each floor permit students to prepare their own meals. Air conditioned public facilities include main lounges, libraries, recreation rooms, and television rooms.

Yulee Hall, also located in the Yulee Area, is reserved for Juniors, Seniors, and graduate students who desire single accommodations in a coeducational setting. The rooms, originally designed as doubles, have been converted to singles and men and women are assigned to alternate floors.

Mallory Hall houses approximately 160 women in double and single rooms. The rooms are not air conditioned; however, air conditioned public facilities include the library, television room, recreation room, and the lobbies.

2. WEST CAMPUS

GRAHAM/HUME/TOLBERT AREA is the largest coeducational complex on campus, housing approximately 2,300 students. Men and women live in different buildings or in opposite wings separated by a central lobby and administrative offices. Graham and Hume Halls accommodate men and women on alternate floors. Each floor or section has community restroom and study lounge facillties. All facilities are air conditioned. Community kitchens on each floor permit students to prepare their own meals. Central public facilities include main lobbies, libraries, recreation rooms, television rooms, cafeteria, and snack bar. Student rooms are singles, doubles, and triples.

TOLBERT AREA (1,000 students). Consists of five residence halls including North Hall, the only coeducational luxury co-op on campus. The area is adjacent to Florida Field and a short distance from the Reitz union.

GRAHAM AREA (650 students). Consists of three residence halls which are located in the center of West Campus. The area includes the largest library on West Campus, an exercise room, and a swimming pool.

HUME AREA (720 students). The largest coeducational hall on campus. Several intramural fields and athletic courts border this popular residence area.

3. NORTH CAMPUS

MURPHREE AREA (coeducational): Murphree, Thomas, Sledd, Fletcher and Buckman Halls are all located in this area. They were the first residence halls built on the University of Florida campus and accommodate about 1100 students. Suites for two or three and single, double and triple rooms are available. Most rooms are equipped with lavatories. These halls are divided into separate, vertical houses accommodating from 16 to 40 students each. Male and female students live in separate houses. There is a bath on each floor. A rathskeller is also located adjacent to the area.

4. TOWERS

BEATY TOWERS (coeducational, upper division and graduate students only): Each Tower accommodates approximately 400 students, with men and women on alternate floors. These buildings are entirely air conditioned and carpeted, with a unique suite arrangement on each floor that virtually eliminates traffic past suite doors. All student spaces are two-bedroom suites for four including a study-kitchenette. The commons building has a social room, library, and sundry shop.

APARTMENTS FOR MARRIED STUDENTS

The University operates six apartment villages for married students. To be eligible to apply for and occupy apartment housing on campus, the following are necessary:

The married student must meet the requirements for admission to the University of Florida, qualify as a full-time student as defined by his/her college or school, and continue to make normal progress toward a degree as determined by the head of his/her college or school. (A min-

imum of 9 credit hours is required for a full-time undergraduate student).

The married student must be a part of a family unit, defined as (1) husband and wife with or without one or more children, or (2) divorced or widowed persons with dependent children.

The married, widowed, or divorced student must be part of a family with a combined gross annual income (including grants-in-aid, scholarships, fellowships, and grants) which does not exceed during the period of occupancy, the following maximum income limitations:

	2 persons	3&4 persons	5&6 persons
Undergraduate	$7,900	$9,100	$10,300
Graduate	8,110	9,310	10,510
Maguire Village	7,400	8,700	10,000

Since on-campus apartments are intended to provide relatively low-cost housing for married students, a family with a combined gross annual income in excess of the above scale cannot apply for or occupy an apartment except in unusual circumstances. Exceptions may be granted only by the Committee on Student Housing.

Residents in all villages must furnish their own linens, dishes, rugs, curtains, or other similar items. Utilities are an extra expense and are billed with the rent.

CORRY (216 UNITS) AND SCHUCHT (104 UNITS) MEMORIAL VILLAGES, of modern brick, concrete and wood construction, contain almost an equal number of one- and two-bedroom apartments, with a few three-bedroom units in Corry Village only. These apartments are carpeted and furnished with basic equipment in the living room, kitchen, dining area, and one bedroom.

DIAMOND MEMORIAL VILLAGE consists of 208 apartments similar in construction, furnishings, and equipment to those in Corry and Schucht Villages. Special features include a community building with air conditioned study-meeting room, and a study cubicle in each two-bedroom apartment.

MAGUIRE VILLAGE and UNIVERSITY VILLAGE SOUTH consists of 348 centrally heated and air conditioned one and two-bedroom apartments. Community facilities include a laundry and a community room. Individual apartments are not furnished but are carpeted. The kitchens are equipped with stove and refrigerator.

TANGLEWOOD MANOR APARTMENTS, located approximately 1¼ miles south of the central campus, consists of 208 furnished and unfurnished efficiency, one bedroom, two bedroom, and two bedroom townhouse units. All units are carpeted, centrally heated and air conditioned. All units have disposals and two bedroom units have dishwashers. All one and two bedroom units have one and one-half baths. Community facilities include a large recreation hall, laundry facilities, and two swimming pools.

OFF-CAMPUS HOUSING

Inquiries about off-campus housing should be directed to the Off-Campus Housing Office, University of Florida, Gainesville, 32611.

The office maintains extensive listings of apartments, houses, rooming units, trailers, and trailer park lots offered for rent to students, faculty or staff members. Each spring the office compiles a comprehensive list of major apartment and rooming unit developments which have been accepted by it for referral. This list is available to anyone who has filed a Request for Assistance with the office. An extensive general information and advisory bulletin is available also.

In addition to the units contained in the comprehensive list, the office has on record several hundred units in other establishments to which referrals are made after notice of availability is received from the owners. Information on these units is posted on bulletin boards in the office, but is not compiled for mailing or general distribution.

The balance between housing supply and demand is usually tight for the Fall Quarter, continues so for the Winter Quarter, but loosens for the Spring and Summer Quarters.

Mutually satisfactory rentals usually can be arranged only after personal inspection of facilities and conferences with the owners. Consequently, persons seeking off-campus housing should plan to come to Gainesville at an appropriate time in advance of the term for which they need housing. Such visits should be made on week days—not on a weekend—after advance information has been procured. Appointments may be made with the office for consultation on particular problems.

FRATERNITIES AND SORORITIES

Nineteen sororities and thirty fraternities have chapters at the University of Florida. Fourteen fraternities maintain chapter houses on Fraternity Row (west campus). Twelve maintain off-campus houses (along Thirteenth Street and University Avenue), and four reside in residence halls.

Twelve sororities maintain houses in the Panhellenic Drive area. There are four sororities with houses in the same area but they are located on private property. In addition, three sororities reside in residence halls.

Regardless of location, all fraternities and sorority houses and individuals are subject to University student regulations.

Social fraternities and sororities must obtain recognition from their respective governing group and Interfraternity Council or Panhellenic Council before they are registered with the University as national organizations.

COOPERATIVE LIVING ARRANGEMENTS

There are five different cooperative living groups at the University of Florida. Three of these groups are located on campus: A men's co-op is in Reid Hall and co-ed co-ops are in Buckman Hall and North Hall. The other two are located off campus.

Among the qualifications for membership are scholastic ability and reference of good character. These cooperative living groups are specifically operated by and for students with limited financial means for attending the University.

Inquiries pertaining to cooperative living on campus are made to the Director of Housing, University of Florida, Gainesville, 32611. The cooperative living organizations on campus currently include: the Reid Hall Co-op for men; the North Hall Co-op for men and women; and the Buckman Co-op for men and women. Off-campus co-ops include: the Collegiate Living Organization (co-ed), 117 NW 15th Street, and Georgia Seagle Hall (men), 1002 West University Avenue.

STUDENT FINANCIAL AFFAIRS

The Office for Student Financial Affairs functions under policies established by the Presidential Committee on Student Financial Affairs. Working in cooperation with all agencies on campus, Student Financial Affairs counselors interview students pertaining to employment, loans, grants, and scholarships. This office serves as an important part of the academic and personal counseling and guidance of students seeking financial assistance. In every case an attempt is made to suggest a balance between self-support, parental help and institutional loans, grants and scholarships. In order to assess need of applicants on an equitable basis, the University of Florida participates in the College Scholarship Service of the College Entrance Examination Board. Inquiries or applications for student financial aid and scholarship awards should be addressed to the Director of Student Financial Affairs, 23 Tigert Hall.

All financial aid, (i.e., scholarships, loans, grants, and employment), is awarded as a "package" in response to an application submitted between November 1 and February 28 each year. While applications are accepted after February 28, the quantity and quality of aid is often affected by late application.

Scholarships

Scholarships are available in limited numbers and within fund limitations. Awards are given to applicants on the basis of academic excellence, good character, leadership

and financial need. Additional awards are made by donors who select the recipient directly. Hence, students are urged to consult the resources of their home community, civic clubs, service organizations, and county educators.

Employment

Employment is available to students on a part-time basis while in school. Every effort is made to direct applicants to positions that will complement their educational goals. In general, first quarter Freshmen are discouraged from seeking employment until they establish themselves academically.

Loans

Loans are available in two forms. First, long-term loans from the University of Florida, Federal and State sources. Such loans are repaid on a monthly installment basis after the student terminates college attendance. Second, small emergency short-term loans are available to meet temporary needs. Such loans must be paid on the first day of the last month in the quarter.

Grants

Grants supported through Federal funds are awarded (within fund limitations) to those students whose financial need qualifies them for consideration. Awardees are selected from the Student Financial Aid Applications submitted during the regular application dates shown above. Exceptions to this rule are the Federal Basic Educational Opportunity Grant and the State Florida Student Assistant Grant. High school and community college counselors have applications and complete information on these programs.

Awards

Awards are made to students in recognition of exceptional achievement in various fields of student life. In some instances these are cash grants; in others, medals, certificates, or keys.

CAREER RESOURCES CENTER

The Career Resources Center provides career development, job placement, and cooperative education programs for all University of Florida students and alumni.

The objective of the Center is to assist students in developing 1) viable career plans compatible with academic interests, and 2) strategies that insure marketability and employment opportunity upon graduation. Thus, the entire program focuses upon the student—during early undergraduate years, approaching graduation, and after graduation as an alumnus. The program is designed to permit students to enter at any point in their college careers. Program resources include:

Individual advisement for students seeking personal career development and job search assistance.

A career mini-school offering many different career investigations and job search preparation short courses weekly (50-minutes each). Courses include career planning, career information for minorities, job market projections for various career fields, job search planning, resume and letter writing, interview techniques, part-time and summer jobs, tips on using the Center, and other specialized information for business, industry, and education job seekers.

A cooperative education program by which students may —through supervised practical work experiences—add relevance to their classroom education, gain professional experience in chosen fields, provide a source of funds to help defray college expenses, and in many cases, become more competitive when entering the job market upon graduation.

An extensive placement service for students and alumni comprising the largest on-campus job interviewing program in the state representing all career fields, and a computer program matching students and alumni with potential employers. The program provides employers with computer printed "mini-resumes" of qualified persons. Students and alumni receive computer listings of compatible employers. The Center also publishes current employer job listings representing hundreds of positions—full-time, part-time and summer—for students, new graduates, and experienced alumni.

A career resources library containing information on several thousand employes and related occupations; employer contact lists; directories for business, industry, education and government; lists of American firms operating overseas; reference and informational material on graduate and special studies programs including fellowships and assistantships; and many other materials and resource data needed by students planning a career, entering the job market, or contemplating graduate school. A special feature of the library facilities is the "Trends Desk" containing research data on job trends, outlook and economic forecasts, labor market statistics, manpower bulletins for various career fields, special directories, and publications giving reports and ratings on most employers.

An audio visual department with study carrels and a library of over 150 slide/tape, video, and audio programs covering career choices, employer information, selection of academic programs, and job search and interview techniques.

A qualification record repository and referral service is available to students and alumni. Qualification Records on over 40,000 students and alumni are presently on file. Copies of credentials sent upon request of the students and alumni to potential employers. In addition, the Center refers qualified persons on file and seeking employment to interested employers requesting candidates to fill job vacancies.

An "outreach program" in which professional staff members are available to hold seminars for student organizations, for lecture presentations to classes on all phases of career planning and job search preparation, and to develop "Career Day" programs in conjunction with colleges.

For additional information, students, alumni, and faculty are invited to visit the Center. Staff members will be happy to discuss ideas, concerns, and needs for individuals or groups.

J. WAYNE REITZ UNION

The J. Wayne Reitz Union is the official center of campus activities. The provision of facilities, services, and a varied program of activities available to all persons of the University "community" serves as the basic purpose of the Union. Policy for the Reitz Union is established by a Board of Managers, consisting of eight students and six faculty members.

During May, 1967, the J. Wayne Reitz Union building was opened. Among the facilities and services offered are music listening rooms, art gallery areas, Arts and Crafts Center, photographic darkrooms, browsing library, a games area for bowling, billiards and table tennis, public telephones, information desk, passenger and ride wanted bulletin boards, display cases, barber shop, Union Store, talent and band file. A large ballroom, an auditorium, and conference and meeting rooms are available for all University organizations. Guest rooms are available for official guests of the University, guests of students, faculty, staff, and alumni.

The Reitz Union offers a wide range of food service facilities and dining opportunities. A cafeteria and snack bar, a restaurant dining area, the Orange and Brew, and complete catering services for small, intimate groups or for a banquet for 700 persons are included in the building.

Of particular significance to the educational program of the University is the Student Activities Center located on the third floor. A distinctive physical arrangement of offices and work space for Student Government, the Student Court, and many other student groups enhances the effectiveness of the total student activities program of the University.

The Reitz Union plans and promotes many social, cultural, and recreational activities for the campus community. Among the regular activities are art exhibits, International Dinners, non-credit courses, current and cultural films, a performing arts series, speaker's programs, outdoor concerts, poetry readings, book reviews, arts and crafts sales, and campus tournaments in billiards, bowling, bridge, foosball and chess. Special activities such as receptions, dances, intracampus and inter-collegiate bridge, billiard and bowling tournaments, music appreciation listening hours, poetry hours, forums and book reviews, fashion shows, international activities, and special holiday parties are all a part of the Reitz Union program.

A distinctive area of the Reitz Union is the H. P. Constans Theatre, a 464-seat facility for the dramatic arts which provides excellence in design, equipment for staging and lighting, and acoustics.

UNIVERSITY COUNSELING CENTER

The University Counseling Center offers free psychological and vocational counseling to all students of the University and their spouses. The Center is staffed by psychologists whose primary interests are to facilitate the growth and development of individuals in the University setting. Psychological services are available to students experiencing academic, personal, social, or marital difficulties. Vocational services include testing, career information, and counseling. The Center offers consultative services to University faculty and staff who are engaged in advising or counseling students.

UNIVERSITY FOOD SERVICE

Food Service provides food service in seven locations on campus convenient to residence halls and classrooms.

Students are offered high quality food at reasonable prices in campus cafeterias and snack bars, as well as the Orange and Brew, Rathskeller, and the Arredondo Room.

It is the policy of the University to provide well-prepared food at the lowest possible cost. Students may effect a savings by participating in one of the three voluntary meal plans. The seven-day plan, three meals a day; the five-day plan (Monday through Friday) three meals a day, or the five day plan (Monday through Friday) any two meals a day. For further information contact the Servomation Office, 110 Johnson Hall.

STUDENT HEALTH SERVICE

The Student Health Service provides a spectrum of medical services which includes primary medical care, health education, health screening programs, and mental health consultation and counseling.

The service consists of an out-patient clinic and a 14-bed in-patient unit staffed by physicians, nurses, psychologists, pharmacists, laboratory and x-ray technicians and supporting personnel. It is housed in the Infirmary, which is centrally located on campus.

The service is a unit of the J. Hillis Miller Health Center whose facilities are available by consultation and referral through the Student Health Service. Specialty clinics are available in the Infirmary for allergy, minor surgery, orthopedics, mental health, and women's health care.

The health fee is part of the tuition fee paid by all full-time students. Part-time students have the option of paying the health fee which would entitle them to the same use of the service as some laboratory tests. When more complicated diagnostic studies or hospitalization is required, additional charges are made. For this reason, the supplemental student government health insurance plan is highly recommended.

A personal health history questionnaire completed by you is required before registration at the University.

SPEECH AND HEARING CLINIC

The Division of Speech Pathology and Audiology, Department of Speech, offers services without charge to any University student who has a speech or hearing disorder. This assistance is available at any time during the year and therapy sessions are adjusted to individual schedules. The student is encouraged to visit the clinic and to take advantage of this service located in the Arts & Sciences Building.

READING AND STUDY SKILLS CENTER

The University Reading and Study Skills Center is a free service to students at all levels. Diagnosis and opportunities for self-improvement are offered on an individual basis in the areas of reading speed, comprehension, vocabulary, and study habits. There are no outside assignments, grades, or course credits given. Students may initiate or discontinue enrollment at any time. Consultative work and other services are also available to staff members.

Student Life

STUDENT ACTIVITIES AND ORGANIZATIONS

Student Government: Student Government at the University of Florida is a cooperative organization for advancing student interests and is based on mutual confidence among and between the student body, the faculty, and the administration. Considerable authority has been granted the student body for the regulation and conduct of student affairs. The criterion in granting authority to the Student Government has been the disposition of UF students to accept responsibility commensurate with the authority granted them. Student Government has several resources at its disposal to fulfill its mission, including the allocation of approximately three million dollars per year in student activity and service fees, substantial authority in the regulation of co-curricular activities, and administration of the Student Court. The University of Florida faculty and staff feel that training in acceptance of responsibility for the conduct of student affairs at the University is a valuable part of the educational growth and development of the individual student.

Student Government is a body politic, occupying its franchise under grant from the Board of Regents and subject to its continued approval. Student Government is patterned on the state and national form of government, but adapted to the local needs of the Student Body. Powers are distributed into the three branches: (1) legislative, which is embodied in the Student Senate; (2) judicial, which is embodied in the Student Court and the Traffic Court; (3) executive, embodied in the President and the Treasurer of the Student Body. Members of all three branches are elected directly by the Student Body, of which all UF students are members. In addition to elected offices, many appointed positions have been established in Student Government, including Cabinet and sub-Cabinet, Student Court, and Traffic Court posts.

Student Government, recognizing its limitations as a true "government", attempts to exercise influence on governments at all levels through conferences, lobbying, research, and the advancement of proposals for change.

Students may apply for various positions within the student government structure by contacting the Student Government offices on the third floor of the J. Wayne Reitz Union.

Interhall Council: The purpose of the Interhall Council is to provide an organization which will further serve as a

channel of communication between Residence Area Councils, Student Government, and the Student Housing Office as well as coordinating individual Area Council activities and representing the collective interests of all residents.

The voting membership of the Interhall Council consists of two representatives from each of the Area Councils.

Dramatics: Any student has an opportunity to participate in several plays which are presented each year by the Florida Players, a dramatic group under the direction of the Department of Speech.

Student Senate: The Student Senate is composed of representatives elected from the colleges and living areas on the campus and in general act as the Legislative Branch of Student Government.

Religious Activities: The University of Florida welcomes the contributions of religious traditions to the campus community. The churches, centers, and organizations associated with the University offer a rich variety of programs and ministries. There are also interdenominational and nondenominational activities fostered by the Department of Religion and the Campus Ministries Cooperative.

Social Fraternities: Thirty national social fraternities for men have established chapters at the University. The general work of the fraternities is supervised by the Interfraternity Council, composed of one delegate from each of the representative fraternities. The national fraternities at the University of Florida are Alpha Epsilon Pi, Alpha Gamma Rho, Alpha Phi Alpha, Alpha Tau Omega, Beta Theta Pi, Chi Phi, Delta Chi, Delta Tau Delta, Delta Upsilon, Kappa Alpha, Kappa Alpha Psi, Kappa Sigma, Lambda Chi Alpha, Phi Beta Sigma, Phi Gamma Delta, Phi Delta Theta, Phi Kappa Tau, Phi Kappa Theta, Pi Kappa Alpha, Pi Kappa Phi, Pi Lambda Phi, Sigma Alpha Epsilon, Sigma Chi, Sigma Nu, Sigma Phi Epsilon, Tau Epsilon Phi, Tau Kappa Epsilon, Theta Chi, and Omega Psi Phi.

Nineteen women's social sororities have established chapters at the University. Sixteen have built chapter houses and three live in other housing arrangements. These living quarters serve as the center of the activities of the individual sororities. Primary jurisdiction in sorority matters is vested in the Panhellenic Council. The chapters at the University of Florida are Alpha Chi Omega, Alpha Delta Pi, Alpha Epsilon Phi, Alpha Kappa Alpha, Alpha Omicron Pi, Chi Omega, Delta Delta Delta, Delta Gamma, Delta Phi Epsilon, Delta Sigma Theta, Kappa Alpha Theta, Kappa Delta, Phi Mu, Phi Sigma Sigma, Pi Beta Phi, Sigma Delta Tau, Sigma Kappa, Zeta Phi Beta and Zeta Tau Alpha.

Professional and Honorary Fraternities: AGRONOMY AND SOILS CLUB; ALPHA DELTA SIGMA, Advertising; ALPHA EPSILON DELTA, Pre-Medical; ALPHA ETA SOCIETY, Allied Health Professions; ALPHA KAPPA DELTA, Sociology; ALPHA KAPPA PSI, Business Administration; ALPHA LAMBDA DELTA, Freshmen scholastic honorary; ALPHA OMEGA ALPHA, Medical; ALPHA PI MU, Industrial Engineering; ALPHA SIGMA MU, Materials Science and Engineering; ALPHA ZETA, Agriculture; AMERICAN CERAMIC SOCIETY; AMERICAN INSTITUTE OF AERONAUTICS & ASTRONAUTICS; AMERICAN INSTITUTE OF ARCHITECTS; AMERICAN INSTITUTE OF CHEMICAL ENGINEERS; AMERICAN INSTITUTE OF CONSTRUCTORS; AMERICAN INSTITUTE OF INDUSTRIAL ENGINEERS; AMERICAN INSTITUTE OF MINING, METALLURGICAL AND PETROLEUM ENGINEERS; AMERICAN NUCLEAR SOCIETY; AMERICAN SOCIETY OF AGRICULTURAL ENGINEERS; AMERICAN SOCIETY OF CIVIL ENGINEERS; AMERICAN SOCIETY OF INTERIOR DESIGNERS; AMERICAN SOCIETY OF MECHANICAL ENGINEERS; ARNOLD AIR SOCIETY, Military; ASSOCIATION FOR CHILDHOOD EDUCATION; ASSOCIATION FOR COMPUTING MACHINERY; BETA ALPHA PSI, Accounting; BETA GAMMA SIGMA, Business and Economics; BILLY MITCHELL DRILL TEAM, Military; CAMPUS DESIGN GROUP, Architecture and Planning Design; CITRUS CLUB; COUNSELOR EDUCATION STUDENT ASSOCIATION; CRIMINAL JUSTICE ASSOCIATION; CURRICULUM AND INSTRUCTION ASSOCIATION, Education; DAIRY SCIENCE CLUB; DELTA PI EPSILON, Graduate Business Education; DELTA SIGMA PI, Business; DELTA SIGMA RHO, Intercollegiate Forensics; ENDOGENOUS RHYTHM, Zoology; EPSILON LAMBDA CHI, Engineering Leadership; ETA KAPPA NU, Electrical Engineering; FLORIDA ANTHROPOLOGY CLUB; FLORIDA BLUE KEY, Leadership; FLORIDA ENGINEERING SOCIETY, Professionalism in Engineering; FOOD AND RESOURCE ECONOMICS CLUB; FOOD SCIENCE AND TECHNOLOGY CLUB; GAMMA THETA UPSILON, Geography; GARGOYLE HONOR SOCIETY, Architecture & Fine Arts Honorary; INSTITUTE OF ELECTRICAL & ELECTRONIC ENGINEERS; INSTITUTE OF TRAFFIC ENGINEERS; JOHN MARSHALL BAR ASSOCIATION, Law; JUSTICE WATCH, Law; KAPPA DELTA PI, Education; KAPPA EPSILON, Pharmacy; KAPPA KAPPA PSI, Band; KAPPA PSI, Pharmacy; KAPPA TAU ALPHA, Journalism & Communications; LAMBDA GAMMA PHI, Veterinary Medicine;

LAMBDA TAU, Medical Technology; MICROBIOLOGY CLUB; MORTAR BOARD, Honor Society; NATIONAL STUDENTS SPEECH & HEARING ASSOCIATION, Speech Pathology; NEWELL ENTOMOLOGICAL SOCIETY, Entomology; OMICRON DELTA EPSILON, Economics; OMICRON DELTA KAPPA, Leadership and Scholastics; ORDER OF OMEGA, Honorary Fraternity/Sorority Leadership; PHI ALPHA DELTA, Law; PHI ALPHA THETA, History; PHI BETA KAPPA, Scholarship; PHI BETA LAMBDA, Education; PHI CHI THETA, Business; PHI DELTA PHI, Law: PHI ETA SIGMA, Freshman Scholastics; PHI KAPPA PHI, Scholastics; PHI MU ALPHA, Music; PI SIGMA ALPHA, Political Science; PI TAU SIGMA, Mechanical Engineering; PRE-LEGAL SOCIETY; PRE-PROFESSIONAL SERVICE ORGANIZATION; PSI CHI, Psychology; PUBLIC RELATIONS STUDENT SOCIETY OF AMERICA; RHO CHI, Pharmacy; RHO EPSILON, Real Estate; RHO PI PHI, Pharmacy; SAVANT, Leadership & Service Honorary; SCABBARD & BLADE, Military Science; SEMPER FIDELIS, Military; SIGMA ALPHA IOTA, Music; SIGMA DELTA CHI, Journalism; SIGMA GAMMA EPSILON, Geology; SIGMA LAMBDA CHI, Building Construction; SIGMA PI SIGMA, Physics; SIGMA TAU SIGMA, Honorary Tutoring; SIGMA THETA TAU, Nursing; SOCIETY OF ENGINEERING SCIENCES, Engineering Sciences; SOCIETY OF ENGINEERING TECHNOLOGISTS, Engineering Technology; SOCIETY OF PHYSICS STUDENTS, Physics; STUDENT AMERICAN PHARMACEUTICAL ASSOCIATION; STUDENT ASSOCIATION IN HEALTH CARE AND HOSPITAL ADMINISTRATION; STUDENT CONTRACTORS AND BUILDERS ASSOCIATION; STUDENT NATIONAL MEDICAL ASSOCIATION; STUDENT OCCUPATIONAL THERAPY ASSOCIATION; STUDENT PHYSICAL THERAPY ASSOCIATION; TAU BETA PI, Engineering Honorary; TAU BETA SIGMA, Band; TAU SIGMA DELTA, Architecture; UNIVERSITY OF FLORIDA FORESTRY CLUB; UNIVERSITY OF FLORIDA LAW REVIEW; UNIVERSITY OF FLORIDA REHABILITATION ASSOCIATION; UNIVERSITY OF FLORIDA STUDENT AMERICAN GUILD OF ORGANISTS; VEGETABLE CROPS ROUNDTABLE, Agriculture; WILDLIFE SOCIETY; XI SIGMA PI, Forestry.

Clubs and Societies: There are more than 225 student clubs and organizations on the campus representing varied interests and activities. These include academic interest clubs; social, religious, and professional groups; hobby groups; and organizations dedicated to a wide variety of personal and community concerns. Many of the organizations are funded by Student Government through the allocation of the student activity and service fee monies.

ACADEMIC HONESTY

The University of Florida expects students to be honest in all of their University class work. Therefore, students are required to commit themselves to academic honesty by signing the following statement as part of the admissions process:

"I understand that the University of Florida expects its students to be honest in all of their academic work. I agree to adhere to this commitment to academic honesty, and

understand that my failure to comply with this commitment may result in disciplinary action, up to and including expulsion from the University."

This statement serves to remind students of the obligation they assume as students at the University of Florida.

INTERCOLLEGIATE ATHLETICS

The University of Florida athletic program is a comprehensive one with teams competing against regional and intersectional opponents in nine intercollegiate sports.

Florida, a member of the Southeastern Conference and the National Collegiate Athletic Association, fields athletic teams in football, basketball, cross country, baseball, track, golf, tennis, wrestling, and swimming.

Physical facilities include Florida Field stadium with a seating capacity of 62,000, a baseball diamond, a completely equipped varsity tennis stadium, swimming pool, running track, two football practice fields, an 18-hole championship golf course and Florida Gymnasium, a facility which houses ample dressing and training rooms, weight rooms, meeting rooms, four practice courts and the 7,200 capacity varsity court.

Women's Intercollegiate Athletics are offered in gymnastics, golf, swimming, tennis, volleyball, softball, basketball, track and field. The program is operated under the Association of Intercollegiate Athletics for Women. Florida is in Region III, Southeast Region.

INTRAMURAL ATHLETICS AND RECREATION

Intramurals is a significant part of the total educational community at the University of Florida. The intramural program provides highly competitive and recreational activities for every segment of the university population. For unstructured leisure time activity, the students, faculty and staff may picnic, boat and swim at Lake Wauberg, check out equipment from four equipment rooms on campus, play on any of the 18 football fields, 15 softball fields, 12 volleyball courts, 32 tennis courts, six four-wall handball-racquetball courts, 24 three-wall handball-racquetball courts, four indoor basketball courts, five outdoor basketball courts, swim in the Florida pool, or exercise on the Universal Gym.

For structured competitive play, the intramural Department organizes tournaments in the following leagues: All University Special Events, Co-Recreational, Men's and Women's residence halls. Student Wives, Engineering, Faculty/Staff, Fraternity, Men and Women Open, Men and Women Independent, Law, Sorority, Little Sister, and ROTC. The Club Program offers instruction, recreational, and competition in approximately 26 clubs including Folk Dance, Karate, Sailing, Skiing, Weight Lifting, Archery and many more.

Student participation and student administration is a tradition in the intramural program at the University. Students officiate the games, manage the leagues, act as Student Director and Office Director in the Intramural Office, serve on the Protest Board and on the Intramural Policy Board.

The current importance and growth of recreational sports on campus is unmatched in the history of the University. We invite everyone to use this resource at the University to fulfill their leisure time interest.

AUTOMOBILE AND TRAFFIC REGULATIONS

Any student of the University of Florida is eligible to register a motor vehicle for use as authorized and to operate and park a registered vehicle on campus. The type of parking decal issued is determined by the student's local residence and student classification.

Students desiring to park on campus during restricted hours must register their automobiles or motorcycles at the University Traffic and Parking Department, 108B Johnson Hall, during their first registration period. Failure to do so will result in a parking citation. There is a system for fines and a point system for on-campus vehicle violations. Persons failing to respond to tickets will be subject to an additional administrative fee of $5.00 and will not receive grades or an academic transcript until delinquent fines and fees have been paid.

A copy of the rules governing traffic, parking and registration of vehicles on campus may be obtained from the Traffic and Parking Department located in Johnson Hall. Each student is urged to familiarize himself with these regulations upon registering at the University.

1790
ask not what
country can do
you -- ask what
can do for your
country.

Student Academic Regulations

Additional information relative to graduation, social activities, failure in studies, conduct, etc., may be found in the Student Handbook *and the sections of the catalog containing regulations of the separate colleges and schools. Each student should become familiar with rules and regulations of the University.*

READMISSIONS

APPLICATION FOR READMISSION

The information contained in this section applies only to students who have previously been admitted at any level to the University of Florida. Requirements for admission for a student seeking to enroll in the University of Florida for the first time will be found in the Admissions section of this catalog. Please consult the INDEX for page numbers.

How to Apply for Readmission: An applicant should address a request to the Office of the Registrar for application forms. Forms and directions vary with the level of readmission. The applicant should indicate in the request the college and the level of last enrollment at the University of Florida as well as the college and level for which he or she wishes to apply. Applications must be received in the Office of the Registrar by the deadline date for the term, as published in the University Calendar.

READMISSION OF STUDENTS

1. *Satisfactory academic record.*

   a. An applicant must be eligible to return to the University of Florida on the basis of one's previous academic record at this institution. If the applicant has attended any college or university subsequent to enrollment at the University of Florida, he or she must also have an average of "C" or higher (as computed by the University of Florida) on all work attempted at each institution. The applicant must also be in good standing and eligible to return to each institution previously attended.

   b. An applicant for readmission must meet the admission requirements of the college or school he or she expects to enter. (Consult the appropriate college section of the catalog for specific admission requirements.)

2. *Satisfactory conduct record*

   a. An applicant must present a satisfactory record of conduct. Regardless of other qualifications, an applicant who has experienced major or continuing difficulties with school or other authorities since the last enrollment at the University of Florida may find his or her application for readmission disapproved.

3. *Submission of Request*

   a. An applicant for readmission should indicate the name under which he or she was registered when last enrolled and the social security number.

Credits

The word credit as used in this catalog refers to one quarter hour.

DEGREES AND GRADUATION

The Board of Regents will confer the degree appropriate to the course pursued under the following conditions:

1. *Curriculum requirements:* Certification by the Dean of the college concerned that all requirements of the course of study as outlined in the college announcement, or its equivalent, as determined by the faculty of the college offering the course, have been completed.

2. *Recommendation of the faculty of the college awarding the degree.*

3. *Residence requirements:* (a) The minimum residence requirement for the baccalaureate degree is three quarters. (b) Students are required to complete the last forty-five credits applied toward the baccalaureate degree during regular residence in the college from which the student is to be graduated. Exception to this regulation may be made only upon written petition approved by the faculty of the college concerned, but in no case may the amount of extension work permitted exceed more than eighteen of the last fifty-four credits required for a baccalaureate degree. (c) For residence requirements for degrees in the College of Law, Medicine, Dentistry, or Veterinary Medicine, see the catalog of each college. (d) For residence requirements of the various graduate degrees, see the *Graduate School Catalog.*

4. *Physical Education Requirements:* Each student who enters as a Freshman or Sophomore must complete three quarters of Physical Education.

5. *Average Required:* In order to secure a degree, a student must have a "C" average or better in all credits required toward that degree.

6. *Two Degrees:* Two degrees of the same rank, e.g., B.A. and B.S. may be conferred upon the same individual provided that the second degree represents at least forty-five credits of additional work, with the necessary qualitative and residence requirements.

7. *Continuous Attendance:* When a student's attendance is continuous, graduation according to the curriculum under which he or she entered is permitted, provided the courses required are offered by the University. If some or all of the required courses are no longer offered, the faculty of the college concerned will make such adjustments for the individual students as are appropriate for the curriculum involved. As long as a student attends the University as much as one quarter during any calendar year, his or her residence is continuous.

8. *Summer Quarter Enrollment:* Effective September 1, 1976 all students entering a university in the State University System with less than 90 hours credit shall be required to earn at least 15 credit hours prior to graduation by attendance at one or more summer quarters. University Presidents may waive the application of this rule in cases of unusual hardship to the individual.

9. *Application For Degree:* Students expecting to graduate must file an application for the degree in the Registrar's Office on or before the date indicated in the current University Calendar of the catalog. Students must apply in the quarter in which they expect to graduate, regardless of previous applications in previous quarters.

10. *Time Limit:* To receive a degree a candidate must have completed: (a) all residence work required for graduation at least 24 hours prior to the scheduled meeting of the College Faculty voting on the candidates for degrees; (b) all extension work at least two weeks prior to the scheduled meeting of the College Faculty voting on the candidates for degrees.

11. *Time-Shortened Degree Opportunities:* A variety of programs is offered by the University of Florida which may enable students to shorten the length of the time necessary for them to complete their degree requirements. These opportunities include several credit by examination programs, and other options. For specific information, refer to the section listed in the table of contents entitled "Time Shortened Degree Opportunities." Also refer to the college descriptions for additional information.

12. *Extension Work Permitted:* (Note: Extension work as used below refers to both extension classes and correspondence study.)

   a. Students may take a maximum of eighteen credits of extension work during any academic year.

   b. Students may not take more than twelve credits of extension work during a quarter.

   c. The amount of extension work which a student may

apply toward degree requirements may not exceed one-fourth of the amount required for the degree. For additional or unique restrictions on extension work allowed toward a degree, students should refer to the appropriate section of this catalog or consult with the dean of the college concerned.

d. Students may not take, by extension work, more than eighteen of the last fifty-four credits necessary for a baccalaureate degree.

e. Simultaneous registration in on-campus and extension work is permitted provided that approval has been obtained from the dean of the college in which the student is registered.

13. *Registration of Graduate Students:* A student *must* be registered in the University for the term in which the candidate's final examination is given and at the time he or she receives a degree.

14. *Repeat Course Work:* Credit will not be allowed on repeated course work if the course that is repeated contains essentially the same course content as it did when the student initially enrolled for the course.

15. *Pending Charge of Academic Dishonesty or Code of Student Conduct Violation:* No degree will be conferred upon a student against whom there is pending an unresolved charge of either Academic Dishonesty or Code of Student Conduct violation where the penalty for such violation would likely be:

a. Suspension

b. Expulsion

c. Failing Grade

d. Any combination of the above until such time as the charge is resolved and degree requirements are met.

MAXIMUM AND MINIMUM LOAD

Some colleges have a maximum load which is stated in the catalog. In the absence of such a statement, the general University regulation applies. This regulation allows a maximum load of 15 credits for a student who earned an average below a "C" the preceding quarter of attendance. The minimum load for all undergraduate students is 12 hours.

Simultaneous enrollment in correspondence courses, extension work at another college or university is counted in computing the maximum, but not the minimum load.

At the time of registration, a student, upon the approval of his or her dean, may register for less than the minimum or more than the maximum load. After the late registration period has closed, no student attending under the above conditions will be permitted to drop below the minimum load unless the student successfully petitions the college in which he or she is enrolled. The minimum load for fulltime benefits from the VA or Social Security is 12 hours per quarter for undergraduate students.

DUAL ENROLLMENT

1. *Definition:* Dual Enrollment, as used in this regulation, refers to a student taking on-campus courses simultaneously at BOTH the University of Florida and another institution.

2. *Dual Enrollment will be permitted ONLY under the following conditions:*

a. Approval in writing for the dual enrollment must have been secured by the student from the appropriate official at EACH institution. A copy of such approval must be furnished at the time of registration to the registrar at the University of Florida.

b. A student will not be permitted to register at the University of Florida for a course which is a part of the curriculum at the student's parent institution. This requirement also applies if courses are available at the parent institution which might be evaluated as equivalent or acceptable substitutes for the University of Florida course. The converse of these statements also applies to University of Florida students registering for courses at another institution.

c. Priority in assignment to classes at the University of Florida will be given to regularly enrolled students.

d. A student taking courses at the University of Florida will be required to register and attend classes under the University of Florida calendar.

e. The student will pay appropriate fees at the University of Florida based on the number of credit hours for which he or she is registered at this institution.

It is the student's responsibility to insure that an official transcript of work completed under a dual registration is forwarded to the parent insitution. Certification to social security and veterans administration programs is also the responsibility of the individual student who must request each individual institution to furnish records as might be necessary.

NON-DEGREE REGISTRATION

A student not previously registered at the University of Florida may with college approval register for one quarter only as a non-degree student. Members of the faculty and staff and those with special permission from their college may consider registering as non-degree students for more than one quarter. Registration will be on a space available basis. Procedures for registering are available from the Registrar's Office.

GRADES

Results of student's work are recorded in the Registrar's Office as follows:

1. *Undergraduate Students:* Passing grades are A, B, C, D, in order of excellence, and S-Satisfactory. Failing grades are E — Failure, I — Incomplete, U — Unsatisfactory, X — Absent from examination, EW — Dropped for nonattendance or unsatisfactory work, and WF — Withdrew failing.

Grades of I and X are considered as failing grades. They must be changed to passing grades in accordance with the dates set in the University Calendar, or be converted to grades of E.

In special situations where it is not possible to assign regular grades at the end of the term, a deferred grade may be assigned. The symbol for a deferred grade is a grade of H. This grade may be assigned only in special cases, such as modular course, confined to infirmary, and similar circumstances. A grade of H will not be computed in a student's grade point average.

2. *Graduate students:* Passing grades for graduate students are A, B, C and S. Grades of "C" in courses below 500-level are acceptable for credit toward graduate degrees only if the total program meets the B-average requirement. C grades in 500-level courses and above count toward a graduate degree only if an equal number of credit hours in courses numbered 500 or above have been earned with a grade of A.

SATISFACTORY-UNSATISFACTORY GRADE OPTION

It is the University's desire to allow students to receive as broad an education as possible. Therefore, students are encouraged to take courses in disciplines in which they may not have the proper background. They may take such course work as electives and receive a grade of S — satisfactory or U — Unsatisfactory. These grades become a part of a student's record, but do not count in the grade point average as computed by the University of Florida. NOTE: Other agencies or institutions might count the grade of U as a failing grade in their grade point average computation.

To be eligible to enroll under the S-U option, a student must 1) be in good standing — may not be on any type of probation, or warning, 2) be classified as an undergraduate

student, and 3) have approval from proper university officials.

Only one course will ordinarily be approved in any one quarter. Approvals for exception to this policy must be obtained from the dean of the college in which the student is registered. Standard exception — Required Physical Education courses may be taken under the S-U option even when the option has been elected in another course.

The deadline for electing the S-U option is the last day for dropping or adding a course as published in the calendar. In addition, students who elect the S-U option may subsequently request that their instructors assign a standard grade.

AVERAGES

1. *Definitions:* The term "average," as used in any university regulations concerning probation or suspension, always refers to the average on work attempted at the University of Florida. Grades received at other institutions are not averaged with grades received at the University of Florida for the purpose of meeting any University average requirement. Most honorary societies take into consideration the quality of the work done at other institutions in meeting any average requirements they may have.

2. *How computed:* Averages are determined by computing the ratio of grade points to quarter hours recorded as attempted. Grade points are established by equating each quarter hour as follows: A with 4.0, B with 3.0, C with 2.0, D with 1.0, and E, WF, EW, I, and X with 0.0. In computing averages, a course repeated is counted as many times as grades for it are recorded. Hours for grades of S and U are not computed in the University of Florida grade point average.

3. *Grade Point Averages:* Students' grade point averages will be based on their overall work at the University of Florida. That is, when students are admitted to the University of Florida their grade point averages begin and their academic averages will be based upon work taken at the University of Florida. While work transferred from other institutions toward a degree program at the University of Florida will count in total hours earned, such hours will not be a part of the University of Florida grade point average.

PROBATION, SUSPENSION, AND EXCLUSION FOR ACADEMIC REASONS

The University of Florida is responsible for providing the best possible education in an economical and efficient manner. In order to discharge this responsibility, the University expects and requires reasonable academic progress from its students. Continuation of students who have demonstrated a lack of the necessary ability, preparation, industry, or maturity to benefit reasonably from a program of university study is inconsistent with the University's responsibility as a tax supported institution.

The University of Florida Senate has enacted regulations covering probation, suspension, and exclusion. These regulations are directed toward enforcing the academic standards of the University. The academic standards of the University require both the maintenance of grade point averages consistent with a reasonable chance of satisfactory completion of the University programs and reasonable conformance to the catalog description of the program of study in which the student is engaged. Any college of the University may specify additional academic standards and students are responsible for observing the regulations pertaining to such standards.

PROBATION BECAUSE OF UNSATISFACTORY ACADEMIC ACHIEVEMENT

The purpose of academic probation is to recognize formally the fact that a student is not making satisfactory progress.

The conditions of academic probation are intended to: (1) relate to quality of achievement below standards required to ultimately graduate; (2) recognize unsatisfactory work at an early date; (3) be sufficiently significant to make clear to the student, and the administration, the shortcomings of the student's performance; (4) provide occasion for counseling; (5) give students whose ultimate success is doubtful further opportunity to demonstrate adequate performance.

All undergraduate students:

A student with less than a 2.0 grade point average overall for University of Florida work shall be placed on scholarship warning if he or she has a grade point deficit which is less than ten.

A student with less than a 2.0 grade point average overall for University of Florida work shall be placed on scholarship probation if he or she has a grade point deficit of ten or more, but less than twenty.

Any student who is eligible to return to the University after a suspension because of academic reasons will be placed on final scholarship probation for his or her next quarter.

In addition to University probation, students may be placed on probation by the colleges in which they are registered if they do not maintain normal academic progress in the program of study in which they are engaged.

CONTINUATION OF PROBATION

All Undergraduate Students:

A student's scholarship warning shall be continued as long as he or she has a grade point deficit of less than ten. A student's scholarship probation shall be continued as long as he or she has a grade point deficit of ten but less than twenty. If the grade point deficit places him or her in another probation category, the student shall be subject to the provisions of that category.

REMOVAL OF PROBATION

All Undergraduate Students:

Scholarship probation or scholarship warning will be removed when a student's grade point deficit has been reduced to zero.

Removal of college probation:

A student will be removed from college probation when it is deemed by his or her college that the student is making satisfactory academic progress in the program of study in which he or she is engaged.

SUSPENSION

The purpose of suspension from the University for academic reasons is to remove from the University community those students who would not ultimately meet requirements for graduation if they continued at their current level of progress.

The conditions of academic suspensions are intended to (1) select students whose performance indicates that they will not fulfill the requirements for graduation; (2) encourage students to leave the University as soon as a high probability of failure is evident.

All undergraduate students:

Students with a grade point deficit of twenty or more in

their University of Florida work shall be suspended from the University for one quarter.

A student re-enrolling after a one quarter suspension will be on final scholarship probation. If the grade point deficit is twenty or more at the end of the quarter the student re-enrolls, he or she will be suspended without the possibility of re-registering, except by committee action.

EARNING CREDIT WHILE SUSPENDED

A student under any kind of academic suspension at the University of Florida may not earn credit toward a degree at the University of Florida by taking work in residence at another institution or through extension or correspondence courses.

However, a student who was suspended for academic reasons and who has not yet earned the Associate of Arts Certificate who subsequently graduates from an accredited Florida Community College may appeal to the Petitions Committee for reinstatement. The Petitions Committee may then, upon the recommendation of the college in which the student wishes to enter, admit the student on academic probation to that college or school. Credits earned by such students while under suspension from the University of Florida may be transferred in accordance with other rules and regulations of the University of Florida.

EXCLUSION

Lower division students:

A University College student who has attempted 125 quarter hours (this includes all work accepted by transfer and all work attempted at the University of Florida) shall be ineligible for further registration at the University unless he or she is admitted to an upper division degree program.

All undergraduate students:

A student may be excluded from a program of study by the College responsible for the program if the student fails or refuses to maintain normal academic progress. Such exclusion does not prohibit the student from enrolling in other programs or colleges if he or she meets the requirements.

Graduate students:

Graduate students may be denied further registration in the University or in their graduate major when their progress toward completion of their planned graduate program becomes unsatisfactory. Unsatisfactory progress has been defined by the Graduate Council to include failure to maintain an accumulative grade average of B in all work attempted in the Graduate School.

WITHDRAWALS

All undergraduate students:

It is the responsibility of each student to make every effort to complete the full quarter at the University. If any student withdraws after the date published in the catalog, he or she shall be assigned grades of WF (withdrew failing) in all courses, and will be subject to the suspension and exclusion regulations.

A student on scholarship probation who withdraws from the University prior to the final date published in the catalog will be continued on scholarship probation for the next quarter.

ABSENCES OR UNSATISFACTORY WORK

Absences count from the first meeting of the class rather than from the date the student first registers for a class.

Students Classified 1 (Freshman)

1. If any student accumulates absences or fails to do class work to the extent that, in the opinion of the instructor, further enrollment appears to be of insufficient value for him or her to continue or detrimental to the best interests of the class, it shall be the responsibility of the instructor to warn such student in writing that further absences or poor work will cause him or her to be dropped from the class with a failing grade. When possible, this warning should be delivered personally; in addition to this procedure, a notification should be given to the Office of the Registrar for mailing to the proper address. All such warnings should be reported immediately to the department chairman.

Should any subsequent absences or failure to do classwork occur, the student shall be dropped from the class with a failing grade. The instructor should initiate this procedure by giving the Registrar written notice.

If the instructor is using a system whereby a given number of absences is allowed, the instructor is authorized to give double "cuts" for any absence incurred during the last class meeting before an official university holiday and the first class meeting following an official University holiday. For example, if a student cuts the last class before Homecoming holiday, the instructor would be authorized to count the student absent twice.

If the instructor does not use such a system, he or she is, after warning the class, either at the beginning of the course or several periods in advance of the forthcoming holiday, authorized to drop the offending student(s) at once. When a student is dropped after a class warning, the notice to the Registrar must so state.

2. *NINE-DAY RULE:* No student shall absent himself from the University for more than nine scholastic days per quarter in order to participate in athletic or in extracurricular activities. (A scholastic day is any day on which regular class work is scheduled.)

The nine-day rule applies to individual members of the group rather than to the group as a whole. Consequently, a schedule of more than nine days for any group should be rotated so that no student is absent from the campus for more than nine scholastic days.

A student who has been warned for absences or unsatisfactory work in any class should not incur additional absences in that course, even though he or she has not been absent from the University for nine scholastic days. It is the responsibility of the student to see that his or her class work and attendance are satisfactory.

Students classified other than 1 (Non-Freshmen):

Attendance in class is optional with students after successful completion of the Freshman year (45 quarter hours credit). Nevertheless, students themselves remain fully responsible for satisfying the entire range of academic objectives as they are defined by the instructor in any course.

Post Baccalaureate Students:

The probation, suspension, and exclusion regulations that apply to undergraduate students also apply to post-baccalaureate students.

CLASSIFICATION OF STUDENTS

Students will be classified by the Registrar each quarter as follows:

0. Special transient or other non-degree students who have been permitted to register at the University of Florida will be classified as 0.

1. A student with less than 45 hours credit will be classified as 1.

2. A student who has earned 45 quarter hours or more, but less than 90, will be classified as 2.

3. A student who has earned 90 quarter hours or more, but less than 135, will be classified as 3.

4. A student who has earned 135 quarter hours or more will be classified as 4.

5. A student who is a candidate for a degree in a program which normally requires 15 quarters and has earned 180 quarter hours or more will be classified as 5.

6. Post-Baccalaureate students: Degree-holding students who have been admitted to post-baccalaureate status will be classified as 6.

7. A graduate student who is seeking a Master's degree will be classified as 7.

8. A graduate student who is seeking a degree beyond the Master's degree, but has not been admitted to doctoral candidacy, will be classified as 8.

9. A graduate student who has been admitted to doctoral candidacy will be classified as 9.

PETITIONS AND APPEALS

In case the operation of a student academic regulation appears to result in an undue hardship on an individual student, he or she may petition for waiver of the regulation.

When petitions pertain to requests for change of schedule after the date authorized for change, exceptions to minimum-maximum load regulation, or permission to drop a course without a failing grade after the drop date, such petitions should be presented to the School or College in which the student is enrolled. Petitions approved by the School or College must be reported to the Registrar's Office before the action becomes official.

All other petitions should be presented to the Registrar who will refer them to the University Senate Committee on Student Petitions. No petition for readmission may be filed after regular registration has started for the quarter.

The student seeking waiver of regulation through petition must remember that no committee on petitions can direct an instructor to reinstate a student dropped from a course for absence or unsatisfactory work, nor can the Senate Committee require any college or school to grant a degree by waiving any of these regulations.

ADMINISTRATIVE PROVISIONS

All actions taken under these regulations shall be reflected by appropriate notations on the student's record.

CONFIDENTIALITY OF STUDENT RECORDS

The University of Florida assures the confidentiality of student educational records in accordance with State University System rules, state statutes, and the Family Educational Rights and Privacy Act of 1974, known as the Buckley Amendment.

In general, a present or former student has the right to personally review his or her own educational records for information and to determine the accuracy of these records. Parents of dependent students, as defined by the Internal Revenue Service, have these same rights. A photo I.D. or other equivalent documentation, or personal recognition by custodian for record will be required before access is granted.

DROPPING COURSES

No student will be allowed to drop a course during the last two weeks of regularly scheduled classes without receiving failing grades. Any student seeking an exception to this policy must petition the University Petitions Committee.

Time Shortened Degree Opportunities

The University of Florida provides numerous opportunities by which students may accelerate their academic careers and reduce the overall length of time spent in completing degree requirements. These opportunities are explained below:

1. *Early Admission:* The Early Admission program allows superior students to be admitted to the University following completion of the Junior year in high school. Applications are encouraged and will be considered on an individual basis by the Admissions Committee. For additional information, refer to the Admissions section of the catalog.

2. *Dual Enrollment:* Dual Enrollment refers to a student taking on-campus courses simultaneously at both the University of Florida and another institution. For example, a high school student could register at the University as a non-degree student. The credits earned prior to high school graduation could then be accepted for advanced standing placement and degree-credit when the student is admitted to the University. For more information, high school students may refer to the description of non-degree registration within the Student Academic Regulations sections.

University of Florida students may also earn additional credit through the dual enrollment program. For more information, refer to the discussion of dual enrollment within the Student Academic Regulations section.

3. *Increased Course Load:* Capable students who register for more than the normal 15 hours per quarter may complete the traditional four-year span within three years.

4. *Year-Round Attendance:* Students attending the University every quarter, including Summer sessions, may advance their graduation date by as much as three quarters.

5. *Credit by Examination:* A student may participate in a variety of credit by examination programs in order to earn credit toward a degree awarded by the University of Florida. Credit received from one examination program may not be duplicated by another. The various credit by examination programs are explained below:

Advanced Placement Program: This credit by examination opportunity is sponsored by the College Entrance Examination Board. Under this program, a student entering the University offers a nationally graded examination as evidence of completion of a college level course taken in high school. If the results of the examination meet the minimum requirements listed below, the student may receive University credit for courses covering similar material.

Advanced Placement Examination	University of Florida Course Designation	Minimum Score Required for Credit	Maximum Quarter Hours Credit
American History	Variable	3, 4, or 5	5 or 10*
European History	Variable	3, 4, or 5	4 or 8*
Mathematics	Variable	3, 4, or 5	5, 10, or 15*
Biology	Variable	3, 4, or 5	3, 6, or 9*
Chemistry	Variable	3, 4, or 5	4
Physics	Variable	3, 4, or 5	5
Languages	Variable	3, 4, or 5	5, 10, or 15*
English	Variable	3, 4, or 5	3, 6, or 9*
Classics	Variable	3, 4, or 5	4

College Level Examination Program (CLEP): The College Level Examination Program is another type of credit by examination opportunity sponsored by the College Entrance Examination Board. By presenting appropriate scores, students may receive as many as 45 hours credit toward completion of general education requirement. Their scores on the CLEP general examinations must meet the minimums established by the State University System. CLEP testing is periodically available on the campus and is administered by the Office of Instructional Resources.

In accord with the Articulation Agreement (agreement between public community colleges and public state universities on the acceptance of credit by transfer), the University of Florida awards credit for CLEP scores at the 50th percentile based on national men-women Sophomore norms. We are indicating below the guideline for the awarding of credit.

CLEP General Examination	University of Florida Course Designation	Minimum Score Required For Credit	Maximum Quarter Hours Credit
English	CEH 101	Scale Score 494	9
Social Sciences	SSC 101	Scale Score 488	9
Biology	CBS 101	Sub Score 50	4.5
Physical Sciences	CPS 101	Sub Score 49	4.5
Humanities	HUM 101	Scale Score 489	9
Mathematics	CMS 101	Scale Score 497	9

Additional credit may be awarded for satisfactory scores on the CLEP subject area examinations.

Departmental Examinations: A student may also receive credit through the challenge of departmental course examinations. For specific information, contact the departments or colleges.

*The amount of credit awarded is determined by the test score.

BEHAVIORAL STUDIES
BIOLOGICAL SCIENCES
ENGLISH
FUNDAMENTAL MATHEMATICS
HUMANITIES
PHYSICAL SCIENCES
SOCIAL SCIENCES

Colleges

University College

The University College offers programs in general education and assists its students in selecting their major prior to admission to the college from which they will obtain their bachelor's degree. It awards an Associate of Arts certificate to those who have successfully completed 96 credits of academic work, including the general education course work required in their major.

The University College is a constituent part of the University of Florida. Its special mission is to provide students with a critical understanding of the major fields of human knowledge and their interrelationships. To furnish this understanding, therefore, the College provides a system of general education courses that cuts across specialized fields to supply an introduction to the methods and conceptual structures in physical sciences, the social sciences, the behavioral sciences, and the humanities.

The Department of Physical Sciences explores the interaction of man and nature and investigates the impact and meaning of physical reality for the individual and society. The Department of Social Sciences examines social systems and major social institutions, tracing the historical development of these institutions and the collective whole which produces them. The Department of Humanities seeks to explore the experiential and aesthetic dimensions of human existence by focusing on classical and contemporary works in the arts and literature. The Department of Behavioral Studies explores major perspectives on the individual and his relationship to his environment as expressed through various social scientific disciplines. Course work in English, mathematics and the biological sciences is also part of the general education program.

This curricular structure seeks to provide a basic understanding of the human condition as it is reflected in, dependent on, and influenced by these major segments of human activity. Through this experience, students can develop a sense of the excitement and challenge of intellectual exploration and a grasp of the tools, techniques, barriers, and achievements of the human mind.

ACADEMIC ADVISEMENT

Initial registration as a University College Freshman for each Fall class is conducted during the preceding Summer months. Students and their parents have an opportunity to attend one of several two-day programs. Notices concerning this are mailed in the late Spring to those students who have been admitted by the University Admissions Office. At these Summer Registration Programs, students and parents attend sessions relating to career choice, student activities, helping services and course selection. Each student meets with a University College academic adviser who assists in selecting courses to take in the Fall.

Those fall students who cannot attend a Summer Registration Program confer with academic advisers as a part of the registration period held in the week prior to the beginning of classes in the Fall. Students entering college in the Winter, Spring or Summer quarters also have advisement conferences as a part of the registration period prior to classes.

In the latter part of each quarter, students register for their next quarter. Again academic advisers are available to discuss course selection. It is expected that students shall accept responsibility for fulfilling curricular requirements as stated in the catalog and students who are making successful progress are not required to see an adviser when registering. Students who are changing majors or who are not maintaining a "C" average are urged to talk to an adviser about course selection.

In the first few days of each quarter (see deadlines in calendar printed on early pages of this catalog) students should review their course selection and add or drop courses if needed to make a reasonable load for the quarter in view of past grades and current goals. If, during the quarter, a student feels he must drop a course because of illness or other emergency he will find academic advisers in the University College office available for discussion of the problem. Advisers are also available to help the student define any other academic problem and find corrective measures.

COUNSELING AND RELATED SERVICES

In addition to assistance from academic advisers, University College students may find that one or more of the following offices can be of assistance in solving personal problems, career selection problems or problems relating to deficiences in academic skills. The Student Affairs section of this catalog describes their specific services.

1. Reading and Writing Center
2. Speech and Hearing Center
3. Student Health Service
4. University Career Planning & Placement Center

In addition, the University Vocational and Psychological Counseling Center provides professional psychological services to students. These include vocational guidance, career information, assistance with academic problems, specialized testing, marriage counseling and personal counseling. Any student may apply in person for such services as he deems necessary. No charge is made. The Counseling Center offers consultative services to University faculty and staff who are engaged in counseling students. Close relationships are maintained with deans, University College advisers, housing personnel, the Student Health Service, and religious centers, for the purpose of expediting both counseling and consultative services.

METHODS OF COLLEGE ACCELERATION

Details concerning acceleration are provided in the part of the catalog entitled "TIME SHORTENED DEGREE OPPORTUNITIES".

Students who obtain credit via CLEP or Advanced Placement must do so before starting college or, at the latest, prior to the end of their first term at the university. Students who obtain general education credit by examination may take further work in the areas covered, using it for elective credit. Some credit by examination may not serve to accelerate a student's program because the specific course requirements of his major are not satisfied by general subject matter credit.

A student may choose to attend four academic quarters each year. This would enable him to accomplish the work of four academic years in three calendar years. Students may take such Summer work at their local community college prior to completion of 96 credits. After completion of 96 credits only work taken at accredited colleges or universities (not junior colleges) is accepted as transfer credit. Students are urged to discuss any such plans with a University College academic adviser prior to enrolling in courses at another school.

Unusually able students may choose to accelerate by carrying heavier than average course loads rather than applying themselves more deeply to normal loads. In some majors such a student might trim one to two quarters off of the time required for his degree; however, at considerable risk to the depth and quality of his education.

SPECIAL COLLEGE PROGRAMS

1. THE SPECIAL SERVICES PROGRAM

This program is designed to give educationally disadvantaged students who qualify for admission by evidence of strong motivation and ability, assistance in developing

those academic skills needed for successful progress in the University of Florida. The program consists of special assistance in reading and study skills, structured study experience via the Office of Instructional Resources Teaching Center and tutoring. In addition efforts are made to obtain some financial assistance in the form of jobs, loans or scholarships for students engaged in the program. Admission to the Special Services Program is selective and only a limited number of students can be engaged.

2. THE COLLEGE HONORS PROGRAM

This program is limited to students from each entering class who are issued special invitations to participate. These students become members of small tutorial classes. The small size of the classes and the high quality of the students make possible deep penetration into course materials and encourage independent work. The students develop their critical faculties through extensive reading, work on research papers, and oral performance in class.

The Associate of Arts with Honors is given to students in the College Honors Program who qualify for the certificate and who complete at least 27 quarter hours in the program and have an overall 3.0 average. The Associate of Arts with High Honors is given to students in the Program if they complete at least 36 quarter hours in the Program and have an overall 3.0 average.

3. THE FLORIDA SCHOLARS PROGRAM

Upon Early Admission to the University after completing eleventh grade, a selected group of gifted and unusual students may pursue individually designed programs of study leading to a bachelor's degree from the College of Arts and Sciences. For details, consult this catalog under heading ADMISSION AS A FRESHMAN.

GENERAL EDUCATION AND THE ASSOCIATE OF ARTS CERTIFICATE

The University College has primary responsibility for the administration of the general education program of the University. To this end its departments provide general education courses and the college awards the Associate of Arts Certificate of the University. All graduates of the university must complete the general education program specified for their major and receive the Associate of Arts Certificate prior to graduation. University college students may transfer to the college of their major when that college approves. All general education requirements must be met prior to graduation from that college. Applications to change college are obtained from the Registrar. Students who maintain a 2.0 average may, barring suspension, remain in the University College beyond 96 credits to complete requirements for admission to the college of their major except that no student may remain in the University College beyond 125 credits.

In planning each quarter's program the student should obtain some balance of general and special education, of science and non-science. The undecided student should be careful to make progress in his general education while trying out courses in specific majors. Typically a student completes the greater part of his general education in the first two years while also taking the preprofessional courses specified for his major.

The Associate of Arts Certificate will be awarded upon completion of:

1. 96 credits including authorized credits in general education as indicated for the student's major.
2. An overall C average.

Application forms for the Associate of Arts Certificate are available from the Registrar and should be returned to him.

AUTHORIZED COURSES FOR GENERAL EDUCATION

The following courses have been approved by the University College for use in satisfying general education requirements. In selecting from among these authorized courses, the student should keep in mind that the general education part of his university program should serve to increase his fund of knowledge outside his major and should broaden his intellectual horizons. He must not, therefore, select courses in only one discipline nor use courses within the scope of his major to satisfy general education requirements. Only in strongly sequential and crowded majors such as mathematics and science is it permissible to use courses in the major for both purposes. In selecting his courses the student should study course descriptions in the back of the catalog, since course titles alone give insufficient information. Stated prerequisites must be adhered to. A student who wishes to use a course not listed below for satisfaction of general education requirements must have it authorized by a University College academic adviser. University College academic advisers are authorized to approve courses in addition to those listed in satisfaction of general education requirements when reasonable. They routinely do so in the case of courses transferred from junior colleges and other universities.

NOTE: Students are urged to study the course descriptions in the back of the catalog so as to take courses in their proper sequence.

MATHEMATICS (Minimum Credits Required)..... 4

CMS 101 — Elementary College Mathematics (CLEP)
CMS 111 — Fundamental Mathematics
CMS 151 — Fundamental Mathematics: Special Topics
CMS 191 — Fundamental Mathematics: College Honors
Any Mathematics (MS) course
Any Statistics (STA) course

ENGLISH (Minimum Credits Required)..... 9

EH — Elementary English (CLEP)

Students are expected to begin their course work in English with EH 111 and follow this with two other EH courses. Students receiving a grade of C or below in EH 111 are advised to take EH 112. EH 121, 122, 123, and 124 are particularly designed for freshmen, but courses numbered 200 and above are open to those who are qualified. Students should see their English instructors or an adviser for suggestions of appropriate courses.

SOCIAL SCIENCES (Minimum Credits Required)..... 9

SSC 101 — Elementary Social Sciences (CLEP)

The following SSC courses have been specifically designed as interdisciplinary courses to fulfill general education requirements. They may also be used as electives.

SSC 211 — American Institutions: Culture and the Socializing Institutions
SSC 221 — American Institutions: The Emergence of the Economic and Political Institutions
SSC 222 — American Institutions: The Economic and Political Institutions of Urban America
SSC 223 — American Institutions: Economic and Political Institutions from Minority Group Perspectives
SSC 231 — American Institutions: America's Role in World Affairs
SSC 232 — American Institutions in World Perspective
SSC 251 — Seminar in American Institutions
SSC 281 — Asia and its Peoples
SSC 291, 292, 293 — American Institutions: College Honors
SSC 316 — Patterns of Intercultural Communication
SSC 352 — American Institutions: Special Topics
SSC 353 — American Institutions: Special Topics

One or more of the following courses, while not originally designed for general education, may also be used provided the student does not take more than one course from each field.

Instead of *SSC 211* American Institutions:

AMS 200 — Introduction to American Studies
APY 200 — Cultural Anthropology
APY 202 — Anthropology and Modern Life
SY 201 — Principles of Sociology

Instead of *SSC 221, 222, 223* American Institutions:
ES 200 — Economic Concepts and Institutions
ES 211 — Economic History of the United States
HY 245 — United States to 1877
HY 246 — United States since 1877
PCL 201 — American Federal Government
PCL 220 — American State and Local Government

Instead of *SSC 231, 232* American Institutions:
GPY 200 — Geography of World Economies
GPY 201 — Geography of World Societies
HY 202 — Western Civilization Since the 18th Century
PCL 209 — International Relations
PCL 207 — Modern Political Systems

BEHAVIORAL STUDIES (Minimum Credits Required)..... 6

The following BES courses are specifically designed to satisfy general education requirements.
BES 202 — The African Experience
BES 211 — Creative and Critical Thinking
BES 221 — Decision Making
BES 251 — Behavioral Studies: Special Topics
BES 252 — Human Sexuality and Society
BES 253 — Power and Violence
BES 254 — Simulated Societies
BES 259 — Cybernetics and Society
BES 291 — Behavioral Studies: College Honors
BES 352 — Topics in Human Sexuality
Other courses which may be used are:
PSY 340 — Personal Growth
SY 230 — Marriage and the Family

HUMANITIES (Minimum Credits Required)..... 12

HUM 101 — Elementary Humanities (CLEP)

The following HUM courses have been specifically designed as interdisciplinary courses to fulfill general education requirements. They may also be used as electives.
HUM 211 — Western Humanities
HUM 221 — Western Humanities
HUM 231 — Western Humanities
HUM 232 — Asian Humanities
HUM 233 — African Humanities
HUM 250 — The Humanities: Special Topics
HUM 281 — Humanities Forum
HUM 291-292-293 — Western Humanities: College Honors

One or more of the following courses, while not originally designed for general education, may also be used provided that the student does not take more than one course from a particular field.
CH 330 — Chinese Culture
CS 201 — Myths of the Greeks and Romans
CS 202 — Greek Life and Letters
CS 203 — Religion of the Greeks and Romans
CS 301 — Greek Drama
CS 302 — Greek and Roman Epic
CS 303 — Ancient Novel
EH 489 — Literature and Opera
FA 200 — Introduction to the Fine Arts
MSC 210 — Introduction to Music
MSC 211 — Masterworks
MSC 212 — Structure
RN 251 — Introduction to the Study of Religion
RN 330 — Introduction to the Study of Judaism
RN 341 — Hebrew Scriptures
RN 362 — Religion and the Modern Mind
RN 364 — Contemporary Religious Thought
RN 365 — (EH 496) Myth in Film and Literature
THE 220 — Theatre Appreciation

PHYSICAL SCIENCES..... (6-9 credits — see note below)

CPS 101 — Elementary Physical Sciences (CLEP)

The following CPS courses have been specifically designed as interdisciplinary courses to fulfill general education requirements. They may also be used as electives.
CPS 216 — Fundamentals of Physical Science A
CPS 223 — Our Environment
CPS 225 — Man's Interactions with the Physical Environment
CPS 226 — Fundamentals of Physical Science B
CPS 231 — The Scientific Basis of Technology
CPS 235 — Natural Regions
CPS 236 — Fundamentals of Physical Science C
CPS 241 — Physical Sciences: Energy and Society
CPS 245 — Physical Foundations of Environmental Sciences
CPS 251 — The Physical Sciences: Special Topics
CPS 264 — Laboratory in the Physical Sciences
CPS 291-292-293 — The Physical Sciences: College Honors
CPS 311 — Men and Concepts
CPS 342 — Space and Society

Students majoring in science normally fulfill their physical science requirement by taking chemistry (201, 211 or 231 sequences) or other professionally oriented science sequences.

One or more of the following courses, while not originally designed for general education, may also be used provided the student does not use more than one course from each field.
ATY 141 — Descriptive Astronomy
CY 101 — Chemistry and Society
GY 109 — Exploring the Geological Sciences
ATS 150 — Introduction to Weather and Climate
PS 200 — Physics for Skeptics

BIOLOGICAL SCIENCES.. (6-9 Credits — See note below)

CBS 101 — Elementary Biological Sciences (CLEP)

The following CBS courses are designed for general education. They may also be used as electives.
CBS 211 — The Biological Sciences
CBS 221 — The Biological Sciences
CBS 231 — The Biological Sciences
CBS 251 — The Biological Sciences: Special Topics
CBS 264 — Laboratory in Biological Sciences
CBS 291-292-293 — The Biological Sciences: College Honors

The following courses, though more professionally oriented, satisfy the requirement for certain science majors and may be used by others.
AG 200 — Agriculture in the Environment
APY 302 — Physical Anthropology
BTY 181 — Introductory Botany
BTY 203 — General Botany
BTY 301 — Introduction to Ecology (for CBS 221, only)
CHE 300 — Technology and Survival
ENE 301 — Environmental Quality and Man
FRC 250 — The Ecosystem — Man — Resource Relationships
FS 201 — Man's Food
FS 250 — Human Nutrition
HRP 331 — Basic Anatomy and Physiology (for CBS 231 only)
MCS 300 — Microbiology (for CBS 231, only)
SLS 333 — Agriculture and Environmental Quality
ZY 201 — Introductory Zoology Laboratory
ZY 202 — Principles of Animal Biology
ZY 321 — Evolution Today (for CBS 211, only)

NOTE: The science requirements call for at least six credits in one science and nine credits in the other.

PLANS OF STUDY BY COLLEGE OF MAJOR

On the following pages, specific general education requirements are listed for each college and/or major. Students are expected to follow the program of general education specified for their particular baccalaureate goal. In other words the particulars of a student's general education depend upon his choice of majors and his choice of courses within the limits set by that major. Associate of Arts Certificates are awarded on this basis. Preprofessional courses for the student's first two years are also listed.

Suggested course sequences are not at all rigid. Each student should adjust his program to fit his ability and background. Academic advisers will help do this.

AGRICULTURE

Students planning to enter the College of Agriculture should take, while in the University College, the following program of study. The sequence in which courses are to be taken will depend upon the department in which a student takes his major in the upper division and will be determined by counselors in the College of Agriculture.

General Education Requirements

	Credits
EH English	9
MS 102 Algebra and Trigonometry	5
*BES Behavioral Studies	4
SSC American Institutions	9
HUM The Humanities	12
CY 201 Introductory General Chemistry	4
PS 201 Applied Physics	5
ZY 201 Introductory Zoological Laboratory	4
Physical Education	3

Preprofessional Requirements

CY 202, 203 General Chemistry and Qualitative Analysis	8
FRE 301 Principles of Food and Resource Economics	5
Electives	17-19

A. Prospective majors in Animal Science, Dairy Science, Food Science, Poultry Science, and Pre-Veterinary Medicine should take courses listed above plus ZY 202, BTY 203, and CY 204.

B. Prospective majors in Dairy and Poultry Management may satisfy the Chemistry requirements by completing CY 201 and 202.

C. Prospective majors in Agricultural Education, Agronomy, Fruit Crops, Mechanized Agriculture, Ornamental Horticulture, Plant Pathology, Soils, and Vegetable Crops should take the courses listed above plus BTY 181 and 203. Agricultural Education majors should elect EY 301 and SCH 201 in lower division. To complete Biology requirements Entomology majors should take in addition to the above, ZY 202 or BTY 203.

D. Prospective majors in Food and Resource Economics should take the courses listed above but may substitute MS 301 or 302 for PS 201 and may fulfill Chemistry requirements by completing CY 201 and 202 or CY 101, and 102, and in addition should complete the Botany 181.

Suitable electives in Agriculture: FRE 310 or 320, MCA 303 and 306, AL 309, ADP 311, EY 301, FRC 220, FS 201, 202, PT 301, SLS 330, PLS 201, OH 331, FC 341, 335, and others according to prerequisites completed.

*Four or more credits of Mathematics or Statistics above College requirements may be substituted.

**Any 5 credit General Physics course may be substituted.

Prospective Mechanized Agriculture Students must take PS 211 and 221.

Suggested Course Sequence

FRESHMAN YEAR

EH English	3
SSC American Institutions	3
MS 102 Algebra and Trigonometry	5
BES Behavioral Studies	3
P1 101 Physical Education	1
EH English	3
SSC American Institutions	3
CY 201 General Chemistry	4
BES Behavioral Studies	3
P1 Physical Education	1
Elective	0-2
EH English	3
SSC American Institutions	3
CY 202 General Chemistry	4
ZY 201 Zoology	4
or	
BTY 181 Botany	5
P1 Physical Education	1

SOPHOMORE YEAR

HUM Humanities	4
CY 203 Chemistry	4
ZY 202 Zoology	
or	
BTY 203 Botany	5
Elective	2-4
HUM Humanities	4
CY 204 Chemistry	4
FRE 301 Food Resource Economics	5
Electives	2-4
HUM Humanities	4
PS 201 Physics	5
Electives or Upper Division Courses	7-8

ARCHITECTURE

Students planning to enter the College of Architecture should take, while in the University College, one of the following programs of study. They should consult the departmental major adviser for specific information regarding grade point averages, minimum grades required in certain courses and other information relating to the Curriculum. Advisers are listed in the catalog under the section titled, "College of Architecture."

To be eligible for admission to the College of Architecture, the student is required to have at least a 2.0 (c) average in the courses listed in the appropriate curriculum for the first two years. In addition the student must earn a 2.0 (c) average in all preprofessional work included in the first two years of the program. Please refer to additional information in the section of this catalog titled "College of Architecture", under the heading "Requirements for Admission".

For upper division programs see the College of Architecture section of the catalog.

A. FOR THE DEGREE, BACHELOR OF DESIGN (ARCHITECTURE)

General Education Requirements

	Credits
EH English	9
MS 102 Algebra and Trigonometry	5
BES Behavioral Studies	6
SSC American Institutions	9
HUM The Humanities	12
CPS 223 Physical Sciences: Our Environment	4
PS 201, 202 Applied Physics	10
CBS Biological Sciences	6
Physical Education	3

Preprofessional Requirements

AE 121 Building Arts	3
AE 112 Basic Drawing	4
AE 113 Architectural Drawing	4
AE 115 Architectural Communications	4
AE 235 Architectural Design 1	4
AE 236 Architectural Design 2	4
AE 245 Mat. & Meth. of Constr. 1	4
AE 255 Architectural Structures 1	4
MS 201 Analytical Geometry and Calculus	5

Suggested Course Sequence

FRESHMAN YEAR

MS 201 Analytic Geom/Calc	5
CPS 223 Physical Sciences	4
AE 112 Basic Drawing	4
AE 121 Building Arts	3
PL	1
8ES Behavioral Studies	4

PS 201 Applied Physics I..... 5
EH English..... 3
AE 113 Arch. Drawing..... 4
PL..... 1

PS 202 Applied Physics II..... 5
EH English..... 3
AE 115 Arch. Communications..... 4
HUM Humanities..... 4
PL Physical Education..... 1

SOPHOMORE YEAR

HUM Humanities..... 4
EH English..... 3
SSC Social Sciences..... 3
AE 235 Arch. Design I..... 4
CBS Biological Sciences..... 3

HUM Humanities..... 4
SSC Social Sciences..... 3
AE 236 Arch. Design II..... 4
CBS Biological Sciences..... 3

AE 255 Arch. Structures I..... 4
SSC Social Sciences..... 3
BES Behavioral Studies..... 3
AE 245 Materials & Methods of Construction I..... 4

B. FOR THE DEGREE, BACHELOR OF DESIGN (INTERIOR DESIGN)

General Education Requirements

	Credits
EH English	9
MS 102 Algebra and Trigonometry	5
BES Behavioral Studies	6
SSC American Institutions	9
HUM The Humanities	12
CPS Physical Sciences	10
CBS Biological Sciences	6
Physical Education	3

Preprofessional Requirements

AE 121 Building Arts..... 3
AE 112 Basic Drawing..... 4
AE 113 Architectural Drawing 1..... 4
AE 115 Architectural Communications..... 4
AE 235 Architectural Design 1..... 4
AE 236 Architectural Design 2..... 4
ATG 201 Elementary Accounting..... 5
Electives..... 8

Suggested Course Sequence

FRESHMAN YEAR

Credits

AE 121 Building Arts..... 3
SSC Social Sciences..... 3
CPS Physical Sciences..... 4
EH English..... 3
PL Physical Education..... 1

AE 112 Basic Drawing..... 4
SSC Social Sciences..... 3
CPS Physical Sciences..... 3
EH English..... 3
BES Behavioral Studies..... 3
PL Physical Education..... 1

AE 113 Architectural Drawing..... 4
SSC Social Sciences..... 3
CPS Physical Sciences..... 3
EH English..... 3
BES Behavioral Studies..... 3
PL Physical Education..... 1

SOPHOMORE YEAR

HUM Humanities..... 4
MS 102 Algebra and Trigonometry..... 5
AE 115 Architectural Communications..... 4
ELECT Elective..... 4

HUM Humanities..... 4
CBS Biological Sciences..... 3
ATG 201 Accounting..... 5
AE 235 Architectural Design 1..... 5
HUM Humanities..... 4
CBS Biological Sciences..... 3
AE 236 Architectural Design..... 4
ELECT Elective..... 4

C. FOR THE DEGREE, BACHELOR OF LANDSCAPE ARCHITECTURE

General Education Requirements

	Credits
EH English	9
SSC American Institutions	6
SY 201 Principles of Sociology	4
HUM The Humanities	12
MS 102 Algebra and Trigonometry	5
CPS 223 Physical Sciences: Our Environment	4
**PS 201 Applied Physics	5
BTY 181 Introductory Botany 1	5
Physical Education	3

Preprofessional Requirements

	Credits
*BTY 203 General Botany	5
MS 201 Anal. Geometry & Calculus	5
AE 121 Building Arts	3
AE 112 Basic Drawing	4
AE 113 Architectural Drawing 1	4
AE 115 Architectural Communications	4
AE 235 Architectural Design 1	4
AE 236 Architectural Design 2	4
AE 245 Materials and Methods of Construction	4
LAE 271 Landscape Architecture 1	4
LAE 272 Landscape Architecture 2	4

Suggested Course Sequence

FRESHMAN YEAR

AE 121 Building Arts..... 3
AE 112 Basic Drawing..... 4
EH English..... 3
MS 201 Analytic Geom/Calc..... 5
PL Physical Educ..... 1

AE 113 Arch. Drawing..... 4
EH English..... 3
SY 201 Princ. Sociology..... 4
BTY181 Intro. Botany..... 5
PL Physical Educ..... 1

AE 115 Arch. Communications..... 4
EH English..... 3
CPS223 Physical Sciences..... 4
*BTY203 General Botany..... 5
PL Physical Educ..... 1

SOPHOMORE YEAR

LAE 271 Hist/Theory Land. Arch I..... 4
AE 235 Arch. Design I..... 4
HUM Humanities..... 4
**CPS Physical Sciences..... 3-4

LAE 272 Hist/Theory Land Arch. 2..... 4
AE 236 Arch. Design 2..... 4
HUM Humanities..... 4
SSC Social Sciences..... 3

AE 245 Mat/Methods Const. 1..... 4
HUM Humanities..... 4
**CPS Physical Sciences..... 3-4

* BTY 203 or approved equivalent
** PS 201 may substitute for CPS 225 and 235 (both must be taken)

SSC Social Sciences..... 3
CIS 302 Intro. Computer Program..... 2

D. FOR THE DEGREE IN BUILDING CONSTRUCTION

General Education Requirements

	Credits
EH English	9
MS 102 Algebra and Trigonometry	5
SSC American Institutions	9
HUM The Humanities	12
PS 201, 202 Applied Physics	10
CBS Biological Sciences	6
Physical Education	3

Preprofessional Requirements

BCN 101 Construction Materials	4
MS 201 Analytical Geometry and Calculus	5
GY 220 Engineering Geology	4
AE 113 Architectural Drawing	4
BES 259 Cybernetics and Society	4
ATG 201 Elementary Financial Accounting	5
EH 303 Business Communications	4
ESM 241 Construction Mechanics 1	5
Electives	4

ARTS AND SCIENCES

The College of Arts and Sciences offers degrees with majors in twenty-nine different major fields, which are listed in the Arts and Sciences section of the catalog, plus an interdisciplinary major. Students who expect to enter the College of Arts and Sciences should complete the General Education Courses listed below and elective courses, with a C or better average. In general, students with a grade of D in any of these courses must complete an Arts and Sciences course in the same area with a grade of C or better before graduation.

Students must complete the General Education Requirements listed below and must apply for and receive the Associate of Arts prior to graduation. Note that the Basic Distribution Requirement listed in the Arts and Sciences section of the catalog must also be met prior to graduation. Many courses will serve in satisfying both requirements. Some will not. Further, the number of credits required in each differs somewhat but BOTH requirements must be met.

A laboratory course is required in the Physical or Biological Sciences before graduation and may be fulfilled by taking CBS 264 or any course in an Arts and Sciences science department that has a regularly scheduled laboratory.

General Education Requirements

	Credits
EH English	9
CMS or MS Mathematics	4

(Botany, chemistry, computer science, economics, mathematics, microbiology, premedical, predental, physics, statistics, and zoology majors should substitute a MS course for CMS 111.)

BES Behavioral Studies	3
SSC American Institutions	9
HUM The Humanities	12
CPS Physical Sciences	10

(Botany, chemistry, microbiology, physics, premedical, predental, and zoology majors should substitute courses in chemistry for CPS.)

Students majoring in CIS may substitute a physics or chemistry sequence for CPS.

CBS Biological Sciences	9

(Botany, microbiology, premedical, predental, and zoology majors should substitute courses in zoology and botany for CBS. All students must earn at least a grade of C in one course in an Arts and Science biological science department: CBS, BTY, MCY, or ZY.)

Physical Education	3

Preprofessional Requirements

A great amount of flexibility is available to the liberal arts student. Certain general guidelines are:

1. Study the materials on admission, advisement, and requirements for degrees in the Arts and Sciences section of the catalog, and consult with the proposed major department as soon as you have chosen a major field.

2. Take courses in your major and take electives.

3. Begin a foreign language. *Prior to graduation* a student must show proficiency in a foreign language either by examination or by successful completion of the third course of the three course beginning sequence or a higher level course.

4. Complete one course in science having a laboratory, *prior to graduation* (not necessarily prior to admission to the upper division). A student may satisfy this requirement while he is in the lower division by taking CBS 264, or by successfully completing an Arts and Sciences course in science which has a laboratory. A grade of at least C is required.

Teacher Preparation in Arts and Sciences

Students may earn their degrees in the College of Arts and Sciences and complete requirements for certification as high school teachers in one or more academic subjects by following one of the Arts and Sciences — Education Programs described in the College of Education section in this catalog.

Further information may be obtained in the College of Arts and Sciences office, 113 Anderson Hall.

Computer and Information Sciences

A student may major in Computer and Information Sciences through the College of Arts and Sciences and is expected, with the aid of his adviser, to satisfy the general Arts and Sciences requirements. In addition during the Freshman year the student should decide which of *two* Sophomore CIS sequences to take. Prior to the start of the Junior year the student should decide which of three general areas he wishes, each of which carries different course requirements.

Years 1, 2, Core Requirements for all CIS majors:

	Hours
MS 301, 302, 303	15
CIS 311, 312	8
MS 328	4
STA 410	5
CIS 321, 322	8

BUSINESS ADMINISTRATION

The College of Business Administration offers degrees in eight major fields which are listed in the Business Administration section of the catalog. Students who expect to receive a degree in one of the business majors must complete: (1) the General Education courses and the Preprofessional requirements listed below and elective courses for a total of at least 96 hours; and (2) satisfactorily complete the upper division requirements.

General Education Requirements

(For all majors in Business Administration)

	Credits
EH English	9
*MS 301 Analytic Geometry and Calculus 1	5
*PPY 200 Logic	4
SSC American Institutions	9
HUM The Humanities	12
**CPS Physical Sciences	7-10
**CBS Biological Sciences	6-9
Physical Education	3

Preprofessional Requirements

a. For Accounting, Finance, Economics, Insurance, Management, Marketing and Real Estate and Urban Analysis majors:

	Credits
***ATG 201 Elementary Financial Accounting	5

***ATG 203 Elementary Managerial Accounting..... 3
***ATG 285 Cost and Management Accounting 1..... 3
ES 201-202 Basic Economics..... 10
MS 302 Analytic Geometry and Calculus 2..... 5
STA 320 Introduction to Statistics..... 4
ES 361 Economic and Business Statistics..... 4

Electives to make a total of 96 hours

b. For Computer Information Sciences majors:

	Credits
ATG 201-203 Elementary Accounting	8
ES 201-202 Basic Economics	10
CIS 311 Introduction to Computing	4
CIS 321 Data Structures	4
MS 302 Analytical Geometry and Calculus	5
MS 324 Matrices and Vector Spaces	4
STA 410 Mathematical Statistics with Computer Applications	5

Electives to make a total of 96 hours

*MS 301 and PPY 200 are also considered preprofessional courses.

**Students are expected to complete 16 hours of the Sciences.

***The ATG 201, 285 sequence is required for Accounting Majors. (Grade of "C" or better is required in these courses to register for accounting major courses). All other Business Administration majors require the ATG 201, 203 sequence.

Choose elective courses needed to complete the total 96 quarter hours in the university transfer program from such areas as mathematics, natural sciences, social science, foreign language, and humanities.

Suggested Course Sequence

FRESHMAN YEAR

EH English..... 3
SSC Social Science..... 3
CPS Physical Science..... 3
MS 301 (or MS 102 if needed)..... 5
PL Physical Education..... 1

EH English..... 3
SSC Social Science..... 3
CPS Physical Science..... 3
MS 302..... 5
PL Physical Education..... 1

EH English..... 3
SSC Social Science..... 3
CPS Physical Science..... 3
STA 320..... 4
PL Physical Education..... 1

SOPHOMORE YEAR

HUM Humanities..... 4
ES 201..... 5
ES 361..... 4
CBS Biological Science..... 3

HUM Humanities..... 4
ES 202..... 5
ATG 201..... 5
CBS Biological Science..... 3

HUM Humanities..... 4
PPY 200..... 4
ATG (203 or 285)..... 3
CIS 302..... 2
Elective..... 5

EDUCATION

ELEMENTARY OR EARLY CHILDHOOD EDUCATION

General Education Requirements

	Credits
American Institutions (SSC)	9
Physical Sciences (CPS)	10
English (EH)	9
Behavioral Studies (BES)	6
Mathematics (MS 310, 311)	6
The Humanities (HUM)	12
Biological Sciences (CBS)	9
Physical Education	3

One quarter of CBS or of CPS may either be omitted or taken as an elective. Students may not use AG 200, APY 302, CHE 300, FRC 250, FS 201, FS 250, or SLS 333 to meet the biological science requirement. Acceptable courses to meet the English requirement are limited to EH 111, EH 112, 121, 122, 123, 124, 229, 230, 234, 235, 251, 281, 291, 292, 293, 301, 302, 303, 304, 305, 329, 330, 391, 401, and 403.

Preprofessional Requirements

A. General preparation requirements

At least 72 hours of general preparation are required to include the courses outlined above, plus electives. To obtain breadth, students may distribute their elective courses among fields rather than concentrating in one. Coursework in areas of recognized weakness is especially appropriate. A student must make a grade of C or better in at least 54 of the 72 hours of general preparation.

B. Other requirements

1. At least 96 credits are required for admission to upper division. The College of Education will accept those students who present the best records and show the most promise of success in a teacher education program. See the College of Education section of the catalog for further information relating to admission to upper division.

C. Other considerations

1. The following courses may be taken in the Sophomore year or delayed until the Junior year:

a. MSC 260 (Students must have a 2.0 average and have completed 64 hours)

b. EH 491

2. Speech requirements may be completed in the Sophomore year or delayed until the Junior year. This requirement is met by successful completion of SCH 201 or 312 or by successfully passing the speech screening test administered by the Speech Department.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
American Institutions (SSC)	9
*Physical Sciences (CPS)	7-10
**English (EH)	9
Behavioral Studies (BES)	6
Physical Education	3
Electives	12
	46-49

SOPHOMORE YEAR

	Credits
The Humanities (HUM)	12
*Biological Sciences (CBS)	6-9
MS 310 and MS 311	6
Electives	22
	46-49

*One quarter of CBS or CPS may either be omitted or taken as an elective.

**See statement under General Education Requirements for acceptable English courses.

SECONDARY EDUCATION OR K-12 PROGRAMS

Secondary Education students wishing certification for teaching in grades 7-12 may work toward degrees in either the College of Education or the College of Arts and Sciences.

Certain other programs prepare students for careers at

all levels of teaching from kindergarten through grade 12 (K-12). These special programs are:

Art (through either the College of Education or the College of Architecture and Fine Arts)

Music (through either the College of Education or the College of Fine Arts)

Physical Education (through either the College of Education or the College of Physical Education)

Special Education — Mental Retardation (through the College of Education)

Speech Pathology and Audiology (through either the College of Education or the College of Arts and Sciences)

All secondary and K-12 programs are specified in the College of Education section of the catalog.

All University College students working toward degrees in Secondary Education or K-12 programs with the exception of science education and music education will pursue the following program:

General Education Requirements

	Credits
American Institutions (SSC)	9
Physical Sciences (CPS)	10
English (EH)	9
Behavioral Studies (BES)	6
Fundamental Mathematics (CMS)	4
The Humanities (HUM)	12
Biological Sciences (CBS)	9
Physical Education	3

One quarter of CBS or CPS may either be omitted or taken as an elective. Students may not use AG 200, APY 302, CHE 300, FRC 250, FS 201, FS 250, or SLS 333 to meet the biological science requirement. Acceptable courses to meet the English requirement are limited to EH 111, EH 112, 121, 122, 123, 124, 229, 230, 234, 235, 251, 281, 291, 292, 293, 301, 302, 303, 304, 305, 329, 330, 391, 401, and 403.

One quarter of CBS or CPS may either be omitted or taken as an elective.

Science education majors should take CY instead of CPS and ZY and BTY instead of CBS. They should also take MS courses instead of CMS.

Because of the nature of their program, music education majors will take their general education requirements over a four year period rather than only during the first two years.

Pre-Professional Requirements

A. General preparation requirements

At least 72 hours of general preparation are required to include the courses outlined above plus elective course work outside of the proposed teaching field at the 100-, 200- or 300-level. These courses should be chosen so as to further broaden the student's knowledge. To obtain breadth, students may distribute their courses among several fields rather than concentrating in one. Course work in areas of recognized weakness is especially appropriate. A student must make a grade of C or better in at least 54 of the 72 hours of general preparation.

B. Teaching field requirements

These teaching fields are listed in the College of Education section of the catalog together with course requirements for each field. Some of these courses can and should be taken while in the University College.

C. Other requirements

1. At least 96 credits are required for admission to upper division. The College of Education will accept those students who present the best records and show the most promise of successs in a teacher education program. See the College of Education section of the catalog for further information relating to admission to upper division.

D. Other considerations

1. Speech requirement may be completed in the Sophomore year or delayed until the Junior year. This requirement is met by successful completion of SCH 201 or 312 or by successfully passing the speech screening test administered by the Speech Department. English and Language Arts majors may meet this requirement *only* by successful completion of SCH 201 or 312.

2. Psychological Foundations Course. (Students must have completed 80 credits)

a. EDF 342 for Secondary Education

b. EDF 345 for Special Teaching Fields

3. Students who choose to work toward a teacher education degree in a college other than the College of Education should consult that college's portion of the catalog for admission and graduation requirements.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
American Institutions (SSC)	9
*Physical Sciences (CPS)	7-10
**English (EH)	9
Behavioral Studies	6
Physical Education	3
Electives	12
	46-49

SOPHOMORE YEAR

	Credits
The Humanities (HUM)	12
*Biological Sciences (CBS)	6-9
Mathematics (CMS)	4
Electives	24
	46-49

*One quarter of CBS or CPS may either be omitted or taken as an elective.

**See statement under General Education Requirements for acceptable English courses.

ENGINEERING

Essential Preparation: Modern engineering education demands much in the way of specific high school preparation not required in other college programs. The beginning engineering student should have a good understanding of the basic physical sciences, a highly developed ability in mathematics, and the competence to read rapidly and with comprehension. The College of Engineering considers that a minimum adequate preparation would be substantially as follows:

The high school program should include the following subjects:

Essentials	Year
Elementary algebra	1
Intermediate and advanced algebra	1
Plane geometry	1
Trigonometry	1/2
Chemistry	1
Physics	1
Desirable	
Additional Mathematics	1/2

Deficiencies in the above subjects may be overcome by registering in certain foundation courses before proceeding with parts of the regular engineering program.

A student in University College may request transfer to the College of Engineering at any time after completing 45 credits.

FRESHMAN AND SOPHOMORE REQUIREMENTS

The following program is designed for those students whose high school preparation meets the above criteria. All Freshmen are required to consult with a College of Engineering adviser in planning their academic programs.

High school records and test scores are reviewed and a

program of study commensurate with the student's academic capabilities is assigned. This workload may range from a minimum of 12 to as much as 20 credit hours per quarter. A student of average academic capabilities and a high order of motivation should be able to carry 15-16 credits each quarter and should thus be able to earn a bachelor's degree in 13 quarters. If he pursues a normal academic program of three quarters each year it will take him four years and one quarter of the fifth to earn his B.S. degree.

General Education Requirements

	Credits
EH English	9
SSC American Institutions	9
*HUM The Humanities	12
**MS 301, 302 Analytic Geometry and Calculus	10
PS 215, 216, 217 General Physics with Calculus	9
PS 225, 226, 227 Physics Laboratory	3
Physical Fitness	3

Preprofessional Requirements

	Credits
***CY 211, 212 General Chemistry and Qualitative Analysis	8
CY 213 or Biological Science Elective	4
MS 303, 304 Analytic Geometry and Calculus	10
ESM 330 Introduction to Engineering Analysis or MS-305 Elementary Differential Equations	3
****ISE 350 Computer Programming for Engineers	2
EGC 180 Introduction to Engineering, Electives and Departmental Requirements	14

Suggested Course Sequence

FRESHMAN YEAR

	Credits
EH English	9
SSC American Institutions	9
**MS 301, 302, 303	15
***CY Chemistry	12
EGC 180	1
PL	3

SOPHOMORE YEAR

	Credits
*HUM Humanities	12
MS 304	5
PS 215, 216, 217	12
PS 225, 226, 227	3
Other Courses (see engineering adviser)	

*Humanities may be delayed till Junior year.

**Students who are weak in algebra or trigonometry should take MS 102 before attempting MS 301.

***Only well-prepared students qualify for admission to the CY 211 sequence. Other students take the CY 201 sequence. See the chemistry course descriptions in the back of the catalog for minimum criteria for admission to CY courses. Students weak in mathematics may need MS 102 prior to CY 201.

****Students entering Chemical Engineering take CHE 303. ISE 350 is not required in the CIS program.

Detailed information about departmental requirements is found in the section on Engineering in this catalog.

A pre-engineering program, taken in one of the Florida Community/Junior Colleges, consists of courses of two semesters, or equivalent, in the following areas: English, social studies, humanities, general chemistry and qualitative analysis, and physics (taught with the use of calculus); mathematics at least through integral calculus; and other required or elective courses. This program totals at least 64 semester hours (96 quarter hours). Satisfactory completion of this program leads to eligibility to apply for admission to the College of Engineering. Community/Junior college counselors are referred to the University of Florida Junior College Counseling Manual sections on General Information and Engineering for additional information.

FINE ARTS

Students planning to enter the College of Fine Arts should take, while in the University College, one of the following programs of study. They should consult the departmental major adviser for specific information regarding grade point averages, minimum grades required in certain courses and other information relating to the curriculum. Advisers are listed in the catalog under the section titled "College of Fine Arts."

To be eligible for admission to the College of Fine Arts, the student is required to have at least a 2.0 (C) average in the courses listed in the appropriate curriculum for the first two years. In addition the student must earn a 2.0 (C) average in all preprofessional work included in the first two years of the program. Please refer to additional information in the section of this catalog titled "College of Fine Arts," under the heading "Requirements for Admission". Music majors may apply to the College of Fine Arts after one quarter in University College.

For upper division programs, see the College of Fine Arts section of the catalog.

A. FOR THE DEGREES IN ART [GRAPHIC DESIGN, ART EDUCATION, CRAFTS, FINE ARTS, HISTORY OF ART]

General Education Requirements

	Credits
EH English	9
CMS Fundamental Mathematics	4
BES Behavioral Studies	6
SSC American Institutions	9
HUM The Humanities	12
CPS Physical Sciences	7
CBS Biological Sciences	9
Physical Education	3

Preprofessional Requirements

	Credits
ART 101, 102 Beginning Design 1 and 2	6
ART 103, 104 Beginning Drawing 1 and 2	6
ART 205 Intermediate Design	3
ART 206 Int. Drawing and Painting	3
ART 207, 208, 209 Intro. to History of ART 1, 2 and 3	9
Electives	10

NOTE: Students intending to major in art education are urged to become familiar with the requirements as listed under the College of Education dealing with admission to the advanced Professional Sequence.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
EH Comp. English	3
SSC Am. Institutions	3
BES Behavioral Studies	3
ART 101 Beginning Design 1	3
ART 103 Beginning Drawing 1	3
Physical Education	1
EH Comp. English	3
SSC Am. Institutions	3
BES Behavioral Studies	3
ART 102 Beginning Design 2	3
ART 104 Beginning Drawing 2	3
Physical Education	1
EH Comp. English	3
SSC Am. Institutions	3
CMS Fund. Mathematics	4
Elective	4
Physical Education	1

SOPHOMORE YEAR

	Credits
HUM Humanities	4
CBS* Biological Science	3
CPS* Physical Science	4
ART 205 Intermediate Design	3

ART 207 Introd. to History of Art 1..... 3

HUM Humanities..... 4
CBS Biological Science..... 3
CPS Physical Science..... 3
ART 206 Inter. Drawing & Pnt..... 3
ART 208 Introd. History of Art 2..... 3

HUM Humanities..... 4
CBS Biological Science..... 3
ART 209 Introd. to History of Art 3..... 3
General or Art Electives..... 6

B. FOR ALL MUSIC MAJORS PROGRAMS IN THE COLLEGE OF FINE ARTS: BACHELOR OF MUSIC AND BACHELOR OF MUSIC EDUCATION DEGREES.

NOTE: Music majors must be admitted to the music major program by the Department of Music. Prospective majors should see the Department of Music Chairman as early as possible in their college careers.

General Education Requirements

	Credits
SSC Social Science	9
*EH English	9
BES Behavioral Studies	6
HUM The Humanities	12

Bachelor of Music

Of the 8 courses: CMS 111, CPS 223, 231, 235; CBS 211, 221, 231; PS 485; the student must elect 3 courses, normally in the Junior year. The student may elect these courses in the Sophomore year, and take CHN 211, 221, 231 in the Junior year.

Bachelor of Music Education

Of the 7 courses: CPS 223, 231, 235; CBS 211, 221, 231; PS 485; the student must earn a minimum of 15 credits which include credits in both CPS and CBS. A minimum of one course in Mathematics is required, and may be taken in either the Junior or Senior year.

Physical Education..... 3

Preprofessional Requirements

FRESHMAN YEAR

Music Performance Area	Credits
Applied Music: Principal Instrument or Voice	9
Ensemble: Band, Chorus, or Orchestra	3
MSC 261, 262, Piano Skills	2
MSC 283, Voice Skills 1	2
Music Theory Sequence	
MSC 101, 102, 103, 104, 105, 106	12

SOPHOMORE YEAR

Music Performance Area	Credits
Applied Music: Principal Instrument or Voice	9
Ensemble: Band, Chorus, or Orchestra	3
MSC 263, 264, 265, Piano Skills	3
Music Theory Sequence	
MSC 201, 202, 203, 204, 205, 206	12
Electives	2

NOTE: The Bachelor of Arts degree in music is offered through the College of Arts and Sciences with the cooperation of the Department of Music. See the College of Arts and Sciences sections of the catalog for that degree.

Suggested Course Sequence

FRESHMAN YEAR

Fall Quarter (1)	Credits
MSC 101—Theory of Music (1)	3
MSC 104—Theory of Music Lab (1)	1
MSC 283—Voice Skills	2
(Voice majors and voice principals take MSC 471, Language and Diction for singers.)	
MSC 1—Applied Music Principal	3
MSC 1—Band, Orchestra or Chorus	1
*EH —English	3
SSC—American Institutions	3
Physical Education	1

Winter Quarter (2)	Credits
MSC 102—Theory of Music (2)	3
MSC 105—Theory of Music Lab (2)	1
MSC 261—Piano Skills	1
MSC 1—Applied Music Principal	3
MSC 1—Band, Orchestra or Chorus	1
*EH —English	3
SSC American Institutions	3
Physical Education	1

Spring Quarter (3)	Credits
MSC 103—Theory of Music (3)	3
MSC 106—Theory of Music Lab (3)	1
MSC 262—Piano Skills (2)	1
MSC 1—Applied Music Principal	3
MSC 1—Band, Orchestra or Chorus	1
*EH —English	3
SSC—American Institutions	3
Physical Education	1

SOPHOMORE YEAR

Fall Quarter (4)	Credits
MSC 201—Theory of Music (4)	3
MSC 204—Theory of Music Lab (4)	1
MSC 263—Piano Skills (3)	1
MSC 2—Applied Music Principal	3
MSC 1—Band, Orchestra or Chorus	1
HUM—Humanities	4
BES—Behavioral Studies	3

Winter Quarter (5)	Credits
MSC 202—Theory of Music (5)	3
MSC 205—Theory of Music Lab (5)	1
MSC 264—Piano Skills (4)	1
MSC 2—Applied Music Principal	3
MSC 1—Band, Orchestra or Chorus	1
HUM—Humanities	4
BES—Behavioral Studies	3

Spring Quarter (6)	Credits
MSC 203—Theory of Music (6)	3
MSC 206—Theory of Music Lab (6)	1
MSC 265—Piano Skills (5)	1
MSC 2—Applied Music Principal	3
MSC1—Band, Orchestra or Chorus	1
HUM—Humanities	4
Elective	2

* Acceptable courses are EH 111, EH 112, 121, 122, 123, 124, 229, 230, 234, 235, 251, 281, 291, 292, 293, 301, 302, 303, 304, 305, 329, 330, 391, 401, and 403.

C. FOR THE DEGREE IN THEATRE

General Education Requirements

	Credits
EH English	9
CMS Fundamental Mathematics	4
BES Behavioral Studies	6
SSC American Institutions	9
HUM The Humanities	12
CPS Physical Sciences	7
CBS Biological Sciences	9
Physical Education	3

Preprofessional Requirements

	Credits
THE 220 Theatre Appreciation	4
THE 225 Oral Interpretation 1	4
THE 240 Voice and Articulation	4
THE 331 Stage Movement 1	4
THE 320 Acting 1	4
THE 327 Stage Makeup	3
Electives	14

Suggested Course Sequence

FRESHMAN YEAR

	Credits
SSC American Institutions (Social Sciences)	3
EH Comprehensive English	3
CPS Physical Science	4
THE 220 Theatre Appreciation	4
Physical Education (Dance, Movement, Fencing, Gymnastics)	1
SSC American Institutions (Social Sciences)	3
CPS Physical Science	3
EH Comprehensive English	3
THE 225 Oral Performance I	4
Physical Education (Dance, Movement, Fencing, Gymnastics)	1
Elective	4
SSC American Institutions (Social Sciences)	3
EH Comprehensive English	3
THE 240 Voice and Articulation	4
CMS 111 Mathematics	4
Physical Education (Dance, Movement, Fencing, Gymnastics)	1

SOPHOMORE YEAR

	Credits
HUM Humanities	4
CBS Biological Sciences	3
THE 331 Stage Movement I	4
THE 320 Acting I	4
BES Behavioral Studies	3
HUM Humanities	4
CBS Biological Sciences	3
THE 327 Stage Makeup	3
Elective	4
BES Behavioral Studies	3
HUM Humanities	4
CBS Biological Sciences	3
Elective	6

NOTE: A student may choose to omit one quarter from the three quarter sequence of either CPS or CBS.

FOREST RESOURCES AND CONSERVATION

Students desiring to prepare for professional careers in the many areas of resources management and conservation (including majors in Forestry, Range Ecosystem Management and Wildlife Ecology) should select the appropriate program from those listed below. In addition, they should contact the Director of the School of Forest Resources and Conservation at the earliest possible date for assignment to an adviser.

Students with adequate preparation in fundamental subjects may upon approval of their adviser bypass certain listed basic courses and proceed with more advanced work in the fields concerned.

PREPROFESSIONAL PROGRAM IN FOREST RESOURCES MANAGEMENT AND CONSERVATION

General Education Requirements

	Credits
EH English	9
*MS 301, 302 Analytic Geometry and Calculus 1, 2	10
SSC Social Sciences	9
HUM Humanities	12
CY 201 and 202 or CY 211 and 212 General Chemistry	8
Biological Science Elect either: (a) BTY 181, 203 and ZY 201 or (b) ZY 201, 202 and BTY 203	14
Physical Education	3

Preprofessional Requirements

	Credits
CY 203 and 204 or CY 213 Qualitative Analysis	4-8
**ES 201, 202 or Basic Economics	9-10
Electives	4
Either PS 211, 212, 221, 222, Physics and Lab or PS 201, 202	10
STA 320 Introduction to Statistics 1	4
Total	96-101

*Students with inadequate backgrounds in mathematics will have to complete MS 102 — Algebra and Trigonometry (5 credits) or equivalent on a non-credit basis prior to scheduling the indicated math requirement.

**FRE 301 Principles of Food and Resource Econ. (5 credits) may be substituted for ES 202.

HEALTH RELATED PROFESSIONS

University College students planning to apply for Upper Division status in the College of Health Related Professions are urged to study the section of the catalog dealing with the College and its programs in Clinical and Community Dietetics, Medical Technology, Occupational Therapy, and Physical Therapy. Special attention should be given those paragraphs on admission policies.

Limitations in available staff, faculty and facilities make it necessary that the College reluctantly establish quotas for the admission of students.

Each department has its own application procedures. Preprofessional students should contact the department of their major objective as early as possible (Clinical and Community Dietetics, Room N1-8 in the Medical Sciences Building, Medical Technology, Room 4111 in Jennings Hall; Occupational Therapy, Room DG-85 in the Dental Science Building; and Physical Therapy, Room A-92 in the Medical Science Building). The sequence of professional courses in all programs begins only in the Fall quarter of the Junior year. The deadline for receipt of applications for September enrollment is the preceding March 15.

Students who plan to earn a baccalaureate degree in the College of Health Related Professions elect one of the following programs:

A. FOR THE DEGREE IN CLINICAL AND COMMUNITY DIETETICS

General Education Requirements

	Credits
EH English	9
CMS Fundamental Mathematics	4
BES Behavioral Studies	6
SSC American Institutions	9
HUM Humanities	12
CY 201 General Chemistry	4
Physical Education	3

Preprofessional Requirements

	Credits
ZY 201, 202 General Zoology	9
CY 202, 203, 204 General Chemistry	12
BTY 203 General Botany	5
FS 250 Fundamentals of Nutrition	4
PSY 201 General Psychology	4
HRP 101 Introduction to Health Related Professions	3
Electives	12

Suggested Course Sequence

FRESHMAN YEAR

	Credits
SSC American Institutions	3
EH English	3
CY 201 General Chemistry	4
PL Physical Education	1
Elective	5
SSC American Institutions	3
EH English	3

ZY 201 Introduction Zoology..... 4
CY 202 General Chemistry..... 4
PL Physical Education..... 1
Elective..... 1

SSC American Institutions..... 3
EH English..... 3
ZY 202 Principles of Animal Biology..... 5
CY 203 General Chemistry..... 4
PL Physical Education..... 1

SOPHOMORE YEAR

	Credits
HUM Humanities	4
CY 204 General Chemistry	4
HRP 101 Introduction to Health Related Professions	3
BTY 203 General Botany	5
HUM Humanities	4
CMS 111 Fundamental Math	4
FS 250 Fundamentals of Human Nutrition	4
BES Behavioral Studies	3
HUM Humanities	4
PSY 201 General Psychology	4
BES Behavioral Studies	3
Electives	6

B. FOR THE DEGREE IN MEDICAL TECHNOLOGY

General Education Requirements

	Credits
EH English	9
MS 102 Algebra and Trigonometry	5
BES Behavioral Studies	3
SSC American Institutions	9
HUM The Humanities	12
CY 211 General Chemistry	4
STA 320 Introduction to Statistics	4
ZY 201, 202 General Zoology	9
Physical Education	3

Preprofessional Requirements

	Credits
CY 212 General Chemistry	4
CY 213 General Chemistry	4
CY 362, 363 Organic Chemistry	6
CY 331, Quantitative Analysis	5
HRP 101 Introduction to Health Related Professions	3
MET 201 Introduction to Medical Technology	2
Electives	14

Suggested Course Sequence

FRESHMAN YEAR

Fall Quarter	Credits
SSC American Institutions	3
EH English	3
CY 211 or CY 201 General Chemistry	4
HRP 101 Introduction to the Health Related Professions	3
PL Physical Education	1
Winter Quarter	Credits
SSC American Institutions	3
EH English	3
CY 212 or CY 202 General Chemistry	4
MET 201 Introduction to Medical Technology	2
PL Physical Education	1
Elective	4
Spring Quarter	Credits
SSC American Institutions	3
EH English	3
CY 213 or CY 203 General Chemistry and Qualitative Analysis	4
BES Behavioral Studies	3 or 4
PL Physical Education	1
Elective	3 or 2
Summer Quarter	Credits
*CY 204 General Chemistry and Qualitative Analysis	4

*Students taking CY 201-4 series must take CY 204 in summer to be ready for CY 362-63 fall quarter.

SOPHOMORE YEAR

Fall Quarter	Credits
CY 362 Organic Chemistry	4
CY 363 Organic Chemistry Laboratory	2
HUM the Humanities	4
**MS 102 Algebra and Trigonometry	5
Winter Quarter	Credits
CY 331 Quantitative Analysis	5
***ZY 201 General Zoology	4
HUM the Humanities	4
Elective	4
Spring Quarter	Credits
HUM the Humanities	4
STA 320 Introduction to Statistics	4
ZY 202 General Zoology	5
Elective	3

**Students who qualify should take an advanced mathematics course instead of MS 102. Consult University counselor.
***Bio 201-202-203 may be substituted for ZY 201-202.

C. FOR THE DEGREE IN OCCUPATIONAL THERAPY

General Education Requirements

	Credits
EH English	9
CMS Fundamental Mathematics	4
BES Behavioral Studies	6
SSC American Institutions	9
HUM The Humanities	12
CPS Physical Sciences	7
CBS 211, 221, 231 and 264, Biological Sciences	10
Physical Education	3

Preprofessional Requirements

	Credits
HRP 101 Introduction to Health Related Professions	3
PSY 201 General Psychology	4
PSY 345 Psychology of Personality	4
OCT 201 Introduction to Occupational Therapy	2
Electives	23

Suggested Course Sequence

FRESHMAN YEAR

Fall Quarter	Credits
SSC 211 American Institutions	3
CPS 311 Men and Concepts	4
EH 111 Expository and Argumentative Writing	3
BES 111 Creative and Critical Thinking	3
CMS 111 Fundamental Mathematics	4
Winter Quarter	Credits
SSC 221 or 222 or 223 Economic and Political Institutions	3
CPS 216 Fundamentals of Physical Science	4
EH 121 Introduction to Fiction	3
BES 121 Decisionmaking	3
HRP 101 Introduction to Health Related Professions	3
Spring Quarter	Credits
SSC 231 American Institutions	3
EH 122 or 123 Drama or Poetry	3
Physical Education	3
Electives	7

Summer Quarter (Optional—to complete Credits pre-requisites before application deadline)

	Credits
HUM 211 Western Humanities (or Music or Art)	4
ZY 201 Introductory Zoology Laboratory	4

SOPHOMORE YEAR

Fall Quarter	Credits
HUM 211 or 221 Western Humanities	4
CBS 211 The Biological Sciences	3
PSY 201 General Psychology	4
Electives	5

Winter Quarter	*Credits*
HUM 221 or 231 Western Humanities	4
CBS 221 The Biological Sciences	3
OCT 201 Introduction to Occupational Therapy	2
PSY 345 Psychology of Personality	4
Electives	3

Spring Quarter	*Credits*
HUM (Selected from Music or Art)	4
CBS 231 The Biological Sciences	3
CBS 264 Laboratory in Biological Sciences	1
Electives	8

Summer Quarter
Students accepted for the Occupational Therapy program may elect available courses in the Department of Occupational Therapy

D. FOR THE DEGREE IN PHYSICAL THERAPY

General Education Requirements

	Credits
EH English	9
MS 102 Algebra and Trigonometry (or more advanced mathematics)	5
BES Behavioral Studies	6
SSC American Institutions	9
HUM The Humanities	12
*CY 201 Introductory General Chemistry	4
*PS 201, 202 Applied Physics	10
*ZY 201, 202 General Zoology	9
Physical Education	3
Electives	5

Preprofessional Requirements

	Credits
CY 202, 203 General Chemistry	8
PSY 201 General Psychology	4
HRP 101 Introduction to Health Related Professions	3
ZY 309 Comparative Vertebrate Anatomy	5
PSY 345 Psychology of Personality	4

*These are also preprofessional requirements.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
EH English	3
SSC Social Science	3
CY 201	4
HRP 101 (or MS 102 or PSY 201)	3
PL	1
EH English	3
SSC Social Science	4
CY 202	4
MS 102 (or see above)	5
PL	1
EH English	3
SSC Social Science	3
CY 203	4
PSY 201 (or see above)	4
PL	1

SOPHOMORE YEAR

	Credits
HUM Humanities	4
ZY 201	4
PS 201	5
BES Behavioral Studies	3
HUM Humanities	4
ZY 202 or 309	5
PS 202	5
BES Behavioral Studies	3
HUM Humanities	4
ZY 202 or 309	5
PSY 345	4
Elective	5

JOURNALISM AND COMMUNICATIONS

The College of Journalism and Communications offers curricula leading to the degrees of Bachelor of Science in Advertising, Broadcasting, or Journalism, and sequences in Public Relations, Technical Communications, Urban Affairs Reporting, and Criminal Justice Public Relations. Detailed information about upper division course requirements is given in the section on Journalism and Communications in this catalog.

In the University College, the program for students expecting to enter the College of Journalism and Communications at the start of their Junior year is:

General Education Requirements

	Credits
*English (Must include at least one course in composition and/or expository writing)	9
Mathematics	4
Behavioral Studies	4
Social Science	9
The Humanities	12
**Physical Sciences	9
**Biological Sciences	9

Preprofessional Requirements

	Credits
BES 259 Cybernetics and Society	4
*JM 201 Writing for Mass Communications (Student may be exempted and earn credit for course by passing a proficiency examination in writing)	4
*Public Speaking or a speaking performance course approved by the College of Journalism	4
+HY 245, 246 United States History	10
+ES 201 Basic Economics I	5
*BR 212 Introduction to Broadcasting (Broadcasting majors only)	3
Physical Education	3
Electives to make a total of 96 quarter hours.	

*Minimum grade of "C" must be earned.
**Three quarter hours of credit of either of these areas may be omitted.
+Public relations majors should see block marked "Basic Distribution Requirements" in PR Upper Division program.

LAW

The College of Law offers a program leading to the degree of Juris Doctor. Admission is limited to those with a bachelor's degree from an accredited college or university who have satisfactory undergraduate records and have attained a satisfactory score on the Law School Admission Test. Also offered is a one-year program leading to the degree of Master of Laws in Taxation. This program is open to those students who hold the J.D. degree and who show significant potential for success in the L.L.M. program. For detailed information on admission requirements, course and programs, see the College of Law catalog.

PRELAW PROGRAMS

Admission to law school is highly selective. Applicants are selected primarily on these factors: the Law School Admission Test, which should be taken in the Junior or Senior year; a writing ability score, which is a separate part of the LSAT; the overall grade point average; co-curricular activities and maturing experiences. Most law schools, including Holland Law Center, also require recommendations by persons familiar with the applicant's achievements. The College of Law advises that to be admitted students should have at least a 3.3 overall average on a 4.0 system, well over 640 on the LSAT, and well over 55 on the writing ability test. The class entering in September, 1975, averaged 3.40 GPA, 647 LSAT and 61 writing ability.

While any undergraduate specialization will prepare a student for law school, the beginning law student must

possess the fundamental skills necessary for effective oral and written communication. The student who lacks writing skills should study advanced English composition. Any course that tests one's ability to organize a body of data and reason from it will be beneficial. Also useful will be courses in constitutional law, English and American history, economics, political processes, and sociology. A course in basic accounting principles is recommended.

Prelaw students should consult the current *PreLaw Handbook* prepared by the Law School Admission Test Council and the Association of American Law Schools. A one-credit course, ASC 180, Introduction to the Legal Profession, is available under the S-U option.

Advisers for prelaw students are available in University College and in the Departments of Economics, English, History, Philosophy, Political Science, and Sociology.

MEDICINE, DENTISTRY, AND OPTOMETRY

The University of Florida, rather than having a separate, organized premedical, predental or preoptometry degree program, allows a preprofessional student to major in a program offered by any department or college within the University. Dental, medical and optometry schools expect applicants to have received a liberal education and to have performed at a high level of academic accomplishment, including work in the required science core courses listed below. Selection for admission to these professional schools is usually based primarily on overall grade point average, (GPA), science GPA, admission test scores, letters of evaluation of the applicant from faculty familiar with the applicant's qualifications in comparison with other preprofessional students, and interviews conducted by the professional schools' selection committees. Students from the University of Florida admitted to dental schools in 1975 averaged 3.2 in overall and science GPA, with scores of 5 or more in the academic and perceptual parts of the Dental Admissions Test (DAT). University of Florida graduates who were admitted to medical schools in 1975 averaged 3.5 in overall and science GPA, with an average score of 590 on the Medical College Admission Test (MCAT). The average GPA for students accepted into regional schools of optometry was 2.9 in 1975.

Freshman students planning careers in medicine, dentistry and optometry should register with the Office of Preprofessional Education, 2008E General Purpose A Building, during their first quarter at the University, and normally should apply for admission to the College of Arts and Sciences at the end of their first quarter of residence. Admission may occur at a later time, but the student may lose valuable curricular flexibility associated with the programs described below if the transfer is greatly delayed. Students transferring from other colleges and universities should also register with this office during the first quarter of residence. In order to inform themselves fully of requirements, procedures and other factors relating to preprofessional preparation, students should obtain a current of the *PREPROFESSIONAL GUIDE* prepared by and available through the Office of Preprofessional Education.

In addition to serving as a central source of information on all matters pertaining to the preprofessional curricula, the Office of Preprofessional Education acts as a clearinghouse for information, catalogues and application forms relating to medical, dental and optometry school requirements and admission procedures. The office provides students with academic advisers and serves as a central office for collecting and forwarding letters of recommendation, evaluation and certification to the schools selected by the students.

The Office of Preprofessional Education coordinates the activities of the preprofessional advisers located in various departments and provides them with current data and procedures needed for effective advisement. Following initial contact with this office, the student will be assigned to an adviser who will help plan a program and upper-division major best suited to the student's aims and abilities. The adviser will remain aware of the student's progress, and will inform the Office of Preprofessional Education of academic difficulties and particularly of academic excellence. In the latter case, the adviser may recommend a student for the Junior Honors Medical Program described below and/or for a departmental honors program.

PREMEDICAL, PREDENTAL, PREOPTOMETRY CURRICULAR OPTIONS

The preprofessional student must satisfy the following core requirements (usually prior to application to the professional schools):

Required Core Courses:
1) A complete general chemistry sequence (terminating with CY 204, 213, 330 or 223)
2) A complete organic chemistry sequence (terminating with CY 385 and 382 or 388)
3) At least 14 credits in biology (usually either ZY 201, 202 and MSC 302, 303 or BIO 201, 202 and 203. MSC 308 will substitute for MSC 302, 303)
4) A complete physics sequence (terminating with PS 213 and 223 or PS 217 and 227)
5) Analytic geometry and calculus (MS 301 and 302)
6) One year of English
These courses will also meet the basic requirements for schools of osteopathic and podiatric medicine.

Premedical students wishing to qualify for the Schools of Medicine at the University of Miami and the University of South Florida must also complete ZY 310, ZY 325 (or AY 362) STA 320, and either CY 331, 341 or BCH 411 or 412.

The usual timetable for application to the professional school is:
1) Complete the preprofessional course requirements within the first three years of college, preferably by the summer of the year preceding the year of graduation.
2) Apply for and take the admission test (DAT, MCAT, or OCAT), preferably in the spring of the year preceding the year of graduation.
3) Have letters of evaluation collected in a confidential file by the Office of Preprofessional Education (see procedure described in instructions to Preprofessional Students in the *PREPROFESSIONAL GUIDE* available at the Office of Preprofessional Education) during the third year of college.
4) Submit completed applications (including admission test scores and letters of evaluation) to the professional schools by the end of August or the first part of September (at the latest) of the year preceding the year of graduation. Delay in completion of applications beyond that date may reduce chances of admission.
5) Maintain a high academic performance and send transcripts of subsequent quarters to professional schools at which your application is being considered.
6) Interviews for applications being seriously considered are conducted in the fall and winter by professional schools.
7) Notices of acceptance or rejection are usually received by the spring of the following year although some acceptances may be offered as late as the week before classes start.

Besides meeting the preprofessional course requirements, students are strongly recommended to gain some experience in the health care delivery environment of their career choice. Such experience may be obtained by participation in the programs of the Preprofessional Honors Society-Alpha Epsilon Delta, and the Preprofessional Service Organization-PSO at the University of Florida. More details about these programs and applications are available at the Office of Preprofessional Education.

STANDARD PROGRAM FOR YEAR 1

Many students reach a decision to prepare for a career in medicine or dentistry during or after one year of college. Such students will usually have to complete requirements at a more accelerated rate if they wish to graduate on schedule. The degree of acceleration should be discussed with a preprofessional adviser.

Any sequence of general chemistry is acceptable. The

basis for choice among CY 201, 211, 221 (Honors), and 231 is outlined in the catalog section preceding chemistry course listings. For qualified students possessing a good background in chemistry, physics and mathematics, the CY 231 sequence offers a number of advantages, including time flexibility. MS 301, MS 302 and ZY 201 should be completed this year. American Institutions and English requirements should be completed by taking the appropriate courses or via College Level Examination Program (CLEP) credit. Liberal arts elective courses, a foreign language, and physics are among options for students who have completed American Institutions and English by CLEP credit.

STANDARD PROGRAM FOR YEAR 2

If a student has not finished general chemistry, it should be completed in this year. Organic chemistry shoud be begun and completed this year. CY 362 is not acceptable. Qualified students are advised to consider application to the honors sequence (CY 387 and 388). Three quarters of biology should be completed by the end of this year. BCH 351 may be elected during the second year as an introduction to human molecular biology and biochemistry. Students should also complete the humanities requirements by coursework unless they have previous CLEP credit. Students with available time might consider completing either a physics or foreign language sequence during this year. Those having a background in foreign language prior to entering the University may satisfy all or part of the foreign language requirement by taking a placement examination, which is offered several times during the year by the foreign language departments.

Second-year premedical students who have a 3.5 average or higher and who have completed the above core requirements may want to apply for admission to the Junior Honors Medical Program. This program allows early acceptance to the University of Florida College of Medicine and participation in third-year medical school seminars. Interested students should contact the Assistant Dean for Preprofessional Education in the College of Medicine (128 Medical Sciences Building). Applications for this program are accepted during the winter quarter, and final selection is made during the spring quarter of the sophomore year.

YEARS 3 AND 4

During year 3 students generally complete any core requirements as yet unfilled. During year 3 or 4 the foreign language requirement must be completed.

The remainder of years 3 and 4 is devoted to completion of a departmental major and elective courses in science and other areas. Professional schools attach no bias toward any particular major. Thus, although most students major in one of the sciences, it is equally possible and desirable to major in some other area. In general, the better the student's record during the first two years, the greater the latitude that student will have in a choice of major. Since most students do major in one of the sciences, the various common preprofessional science options are outlined below.

1) Botany Major - Students planning a major in botany through the College of Arts and Sciences should schedule BTY 203 by Fall quarter of the third year (preferably sooner if scheduling permits). During the third year BTY 310, BTY 380 or 532, BTY 342 or 542, and ZY 325 or AY 362, 363 should be completed. During the fourth year BTY 301 should be scheduled. Remaining hours needed for the major in botany will be chosen as elective credits to meet the specific interest of the student. Students interested in research or departmental honors should schedule BTY 496 during the fourth year.

2) Chemistry Major - If quantitative analysis, CY 330, has not been taken as part of the CY 231 sequence, then quantitative analysis CY 331 or 332 is required. A student may elect either physical chemistry sequence CY 451-454 (MS 305 is co-requisite) or CY 341-343. Students who choose the CY 341-343 sequence must also take either CY 433-434 or 435-436. Students interested in a research experience should consider taking CY 496 in their last year.

3) Microbiology and Cell Science Major - Students interested in a microbiology major should schedule MCS 302, 303 after at least one quarter of organic chemistry. BCH 411 is a required course for the microbiology major. In addition to MCS 302, 303, the following courses constitute the remainder of the major program: MCS 308, 405, 406, 410, 419, 420 and 421. In some cases which are determined by the microbiology undergraduate coordinator, BCH 412 may be substituted for MCS 420. Students interested in undergraduate research projects as well as departmental honors should discuss MCS 496 with the undergraduate coordinator. In addition, quantitative analysis (either CY 330, 331 or 332) is a required background course for this major.

4) Zoology Major - A preprofessional zoology major must take ZY 325 and at least one course from each of the following three sets:

a. ZY 309, 310
b. ZY 306, 308, 309, 318, 516
c. ZY 510 or 405

(Suggested course selections for preprofessional students are: 309, 310, 510).

At this point, the student will have 34 major credits. Zoology courses in physiology (ZY 574) or histology (ZY 521) are appropriate electives to complete the major requirements of 39 credits in zoology. The student should also be aware of the possibility of research experience through ZY 496. Two quarters of ZY 496 are required for departmental honors.

5) Biochemistry Major - Although an undergraduate major is not currently available, the undergraduate biochemistry program (see description under Biochemistry) offers a comprehensive series of courses providing a concentration in biochemistry and molecular biology. Courses in the sequence BCH 351, 411, 412, 578 and 579 may supplement or substitute for comparable courses in related major programs. Students desiring research experience in this area should consider BCH 496. At some professional schools students having taken a biochemistry as undergraduates may exempt themselves from the biochemistry course taught as part of the basic medical science sequence.

6) Interdisciplinary Major - This major, described elsewhere in the Arts and Sciences section of the catalog is available for superior preprofessional students.

Transfer students who have received credit for the first two years of college at another institution should have no difficulty in adapting themselves to the above format with the help of an adviser. Since relatively heavy weight is placed by preprofessional schools upon the performance of transfer students in their third year, such students should plan on taking at least 30 hours in science during the first three or four quarters at the University of Florida. Those transfer students who have completed all of the basic preprofessional course requirements should consider taking additional courses in either chemistry, zoology, microbiology, biochemistry, physics, mathematics or statistics. By doing well in courses which are taken by many preprofessional students at the University of Florida, transfer students can enhance their academic records and provide admission committees with a basis of comparison of their academic abilities with other applicants.

Choice of electives: Professional schools do not appear to have any significant bias toward elective courses chosen by students. These schools, in fact, look with favor upon students who have shown broad interests and educational development during their college career. Commonly selected science electives include senior research, BCH 351, BCH 411-412, MCS 302, 303, ZY 521, and ZY 574. Students who have displayed academic weakness in any of the required core course areas (especially chemistry or zoology) generally are advised to offset such weaknesses by stronger

performances at a more advanced level. It should be reemphasized that students applying to the University of Miami School of Medicine and to the University of South Florida College of Medicine should complete additional advanced courses as listed above before graduation regardless of their major.

CLEP Credit: It is generally agreed that receipt of such credit does not imply the equivalent of educational experience received in a University level course. CLEP credit does not substitute for any of the preprofessional core requirements listed above. In general, the utilization of CLEP credit will give students some additional flexibility in completing their educational requirements. In some cases, this flexibility will take the form of accelerated entry into professional school. Preprofessional students using CLEP credit to satisfy general education requirements are encouraged to register for liberal arts courses in English, social sciences and humanities, at the 200 level or above.

Post-baccalaureate undergraduate work: Students who have received a BS or BA degree and have not qualified for professional school because of a lack of quality and/or quantity of preprofessional work may want to consider additional work at the undergraduate level to make up these deficiencies. Students interested in this possibility should consult the Director of the Office of Preprofessional Education, 2008E General Purpose A Building.

NURSING

General Education Requirements

	Credits
English	9
Mathematics (any mathematics)	4
Social Science SSC 211, SSC 221 or 222, APY 202 or SY 201	11
Behavioral Studies BES 211 or BES 221 or PSY 201 and PSY 440	7
Humanities	12
*Physical Science CPS 216 or CPS 225, CPS 226 or CY 101 or 102, CPS 231	10
Biology CBS 211, CBS 221, CBS 231	9
Physical Education	3
Electives	12

Preprofessional Requirements

	Credits
Microbiology MCY 300	5
Fundamentals of Human Nutrition FS 250	4
Development Psychology (PSY 303) or Human Growth and Development (EDF 345)	4
**Human Anatomy and Physiology MED 331	4
Total	95

*CPS 216 is needed prior to CPS 226. One quarter of chemistry is required.

**If MED 331 is not available it may be deferred and taken in the first quarter of upper division. Should MED 331 not be taken in lower division, a total of 16 credit hours of electives must be taken.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
EH	3
CBS 211	3
SSC	3
MS 102	5
PL	1
EH	3
CBS 221	3
SSC	3
CPS 216	4
PL	1
Elective	4

EH	3
CBS 231	3
SSC	3
EDF 345 or PSY 303	4-5
PL	1

SOPHOMORE YEAR

	Credits
MCY 300	5
HUM 211	4
SY 201 or APY 202	4-5
BES 252, 253 or SY 230	4
FS 250	4
HUM 221	4
CPS 226 or CY 101, 102 or 201	3-4
PSY 440	4
HUM 231	4
CPS 231	3
Elective	4
Elective	4

PHARMACY

The program of study leading to the degree of Bachelor of Science in Pharmacy is divided into two parts—two years of prepharmacy in the University College and three years in the College of Pharmacy.

In keeping with the accreditation requirements of the American Council on Pharmaceutical Education, all students must be enrolled in one or more required pharmacy courses in the College of Pharmacy for a minimum of nine quarters, regardless of the number of studies completed in other fields. Upon applying for admission to the College of Pharmacy, it is advised that the student see the College of Pharmacy Assistant Dean for Student Affairs, (PHM, room P-111) to be sure that all recommended prepharmacy courses will be completed by September.

Prepharmacy Program

To be considered for admission to the College of Pharmacy the applicant must have: (1) earned at least 96 quarter hours of acceptable college credit with an overall average of "C" or higher on all course work attempted; (2) completed all lower division courses required for the desired curriculum as indicated below in the program for the Freshman and Sophomore years in University College; (3) passed all the required preprofessional courses (general and organic chemistry, physics, biological sciences and mathematics) within the prepharmacy curriculum with an average of "C" or higher; and (4) submitted scores on the Pharmacy College Admission Test (PCAT) to the College of Pharmacy. See *College of Pharmacy* for further information on Requirements for Admission and PCAT.

The courses listed below are recommended for the first two years of prepharmacy. For academic advisement and other information the Office for Student Affairs, College of Pharmacy (Room P-111), J. Hillis Miller Health Center, is pleased to assist students as well as to facilitate their application.

	Credits
SSC American Institutions	9
EH English	9

BES Behavioral Studies or Equivalent..... 3
*CY 211, 212, 213 Gen. Chem. & Qual. Anal..... 12
HUM The Humanities..... 12
ZY 201 Introd. Zoology Laboratory..... 4
ZY 202 Principles of Animal Biology..... 5
PS 211, 212, and 213 General Physics..... 8
**PS 221, 222, or 223 Physics Laboratory..... 2
CY 381, 382 Organic Chemistry..... 7
CY 384, 385 Organic Chemistry Laboratory..... 3
Physical Education and Health..... 3
***Approved Electives..... 19

Total 96

*Students not qualified for this sequence should take the CY 201-2-3-4 series (16 credits).

**A minimum of 10 credits is required for students planning to pursue the community and hospital areas. Students wishing to major in industrial and research pharmacy should complete the entire sequence.

***The electives shall include a requirement in mathematics. Recommended courses are MS 102 and at least one of the following: MS 201, MS 204, or the first course in the MS 301-302 series. Students planning to pursue the industrial or research option in pharmacy should take MS 301. The remaining elective credits are to be chosen by the student according to his interests. However, the student is advised to see a counselor in the College of Pharmacy for suggested courses.

The professional sequence of courses is on an annual basis only beginning in September each year. Students are admitted to the College of Pharmacy annually, in September only, when the fall quarter begins. Students in pre-pharmacy in University College should plan their course schedules for each term so that the minimum 96 credits and specific course requirements are satisfied by June of the year expected to enter the College of Pharmacy.

PHYSICAL EDUCATION, HEALTH AND RECREATION

University College students expecting to earn a degree in the College of Physical Education, Health, and Recreation should pursue one of the following programs:

A. FOR MEN AND WOMEN INTENDING TO MAJOR IN PHYSICAL EDUCATION

General Education Requirements

	Credits
EH English	9
CMS Fundamental Mathematics	4
BES 211 or 221 Behavioral Studies	3
SSC American Institutions	9
HUM The Humanities	12
CPS Physical Sciences	10
CBS Biological Sciences	9
Physical Education	3

Preprofessional Requirements For Men

	Credits
PHR 100 Men's Team Sports	2
PHR 101 Men's Soccer and Related Sports	2
PHR 126 Swimming	3
PHR 201 Football Fundamentals	3
PHR 202 Men's Basketball Fundamentals	3
PHR 203 Men's Track and Field	2
PHR 205 Wrestling and Conditioning Programs	2
PHR 207 Men's Gymnastics	3
PHR 224 Golf	2
PHR 225 Tennis	2
PHR 261 Individual and Family Health	5
PHR 266 First Aid and Medical Self-Help	3
SCH 312 Public Speaking or SCH 201 Introduction to Speech Communication	4-5
Second Teaching Field Electives	9

Preprofessional Requirements For Women

	Credits
PHR 111 Women's Soccer and Related Sports	2
PHR 113 Women's Track and Field	2
PHR 114 Women's Softball	2
PHR 126 Swimming	3
PHR 210 Women's Volleyball and Field Hockey	3
PHR 217 Women's Gymnastics	3
PHR 220 Recreational Sports	2
PHR 224 Golf	2
PHR 225 Tennis	2
PHR 231 Folk and Social Dance	3
PHR 232 Modern Dance	3
PHR 261 Individual and Family Health	5
PHR 266 First Aid and Medical Self-Help	3
SCH 312 Public Speaking or SCH 201 Introduction to Speech Communication	4-5
Second Teaching Field Electives	5

Suggested Course Sequence

FRESHMAN YEAR

	Credits
SSC American Institutions	3
EH 111 English	3
CPS 216, 223 Physical Science	4
PHR Choice of 100, 101, 111, 113, 114, 126, 203, 204, 205, 207, 210, 217, 220, 224, 225, 232	2-5
PL 101 Basic Concepts	1
SSC 221, 222, 223 Amer. Institutions	3
EH 121 English	3
CPS 225, 226, 231 Phys. Science	3
PHR Choice as suggested above	2-5
PL 117, 158, 161, 165 as needed	1
SSC 221, 222, 223, 231, 232, 281 American Institutions	3
EH 122, 123 English	3
CPS 235, 236, 241	3-4
PHR Choice as suggested above	2-5
PL 117, 158, 161, 165 as needed	1

SOPHOMORE YEAR

	Credits
CMS 111 Fundamental Mathematics	4
HUM 211 Humanities	4
CBS 211 Biological Science	3
PHR Choice of 100, 101, 111, 113, 114, 126, 203, 204, 205, 207, 210, 217, 220, 224, 225, 231, 232, 261, 266	2-5
PL Choice as needed to make up deficiency or for enrichment	0-1
HUM 221, 231 Humanities	4
CBS 221 Biological Science	3
BES 211 or 221 Behavioral Studies	3
PHR Choice as suggested above	2-5
PL Choice as needed to make up deficiency or for enrichment	0-1
HUM 231, 232, 233 Humanities	4
CBS 231 Biological Science	3
PHR Choice as suggested above	2-5
PL Choice as needed to make up deficiency or for enrichment	0-1
SCH 312 Public Speaking or SCH 201 Introduction to Speech Communication	4-5

B. FOR MEN AND WOMEN INTENDING TO MAJOR IN HEALTH EDUCATION

General Education Requirements

	Credits
EH English	9
MS 102 Algebra and Trigonometry or CMS 111	5
BES Behavioral Studies	6
SSC American Institutions	9
HUM The Humanities	12
CPS Physical Sciences	4
GY 109 Geology	4
CY 101 Chemistry or CY 201	4
ZY 201 Introductory Zoology Laboratory	4
BTY 181 Introductory Botany (or 10 credits of CBS)	5
Physical Education	3

Preprofessional Requirements

	Credits
PHR 261 Individual and Family Health	5
PSY 201 General Psychology	4
SCH 201 Introduction to Speech Communication	4
SY 201 Principles of Sociology	4
PHR 262 Community and Environmental Health	4
PHR 266 First Aid and Personal Safety	3
Approved Electives	10

Suggested Course Sequence

FRESHMAN YEAR

	Credits
SSC 211 Social Science	3
EH English	3
*CBS 211 Biological Science	3
PHR (HES) 261 Individual & Family Health	5
PL 101 Basic Concepts	1
SSC 221 Social Science	3
EH English	3
*CBS 221 Biological Science	3
CPS 216 Physical Science	4
PL	1
Electives (BES or HES)	3
CMS 111 (MS 102)	4-5
EH English	3
*CBS 231 Biological Science	3
*CBS 264 Lab. Biological Science	1
PL	1
Electives (BES or HES)	4-5

SOPHOMORE YEAR

	Credits
HUM 211 Humanities	4
SY 201 Principles of Sociology	4
GY 109 Exploring the Geological Sciences	4
PHR (HES) 262 Community and Environmental Health	4
HUM 221 Humanities	4
CY 101 Chemistry and Society	4
SCH 201 Introduction to Speech Communication	5
PHR (HES) 266 First Aid and Personal Safety	3
HUM 231 Humanities	4
ZY 201 Introductory Zoology Laboratory	4
PSY 201 General Psychology	4
Electives	4

*BTY 181 (5 hrs.) Introductory Botany may be substituted for the CBS series. At least 11 elective hours must be selected from the approved list of biological sciences available in the counseling office.

C. FOR MEN AND WOMEN INTENDING TO MAJOR IN RECREATION

General Education Requirements

	Credits
EH English	9
CMS Fundamental Mathematics	4
BES Behavioral Studies	6
SSC American Institutions	9
HUM The Humanities	12
*CPS Physical Sciences	9
*CBS Biological Sciences	9
Physical Education	3

Preprofessional Requirements

	Credits
MSC 366 Music in the Field of Recreation	4
PHR 204 Baseball or PHR 114 Women's Softball	2
PHR 203 or PHR 113 Track and Field	2
PHR 220 Recreational Sports	3
PHR 231 Folk and Social Dance	3
PHR 100 Men's Team Sports	2
PHR 245 Leadership in Recreation	4
SCH 201 Introduction to Speech Communications	4
Electives	17

*Three credits of one of these may be omitted

Suggested Course Sequence
(Public Recreation Concentration)

FRESHMAN YEAR

	Credits
*SSC 211 Soc. Science	3
EH English	3
CPS 223 Phys. Sci	4
#PHR 114 Softball (W)	(2)
#PHR 204 Baseball (M)	(2)
EH 201 Use of Books and Library	2
PL	1
SSC 221 Soc. Sci	3
EH English	3
CPS 311 Physical Sci	3
PHR 220 Rec. Sports	3
PCL 220 Amer State & Local Govt	3
PL	1
SSC 222 Soc. Sci	3
EH English	3
#PHR 203 Tr/Fld (M)	(2)
#PHR 113 Tr/Fld (W)	(2)
SCH 201 Introduction to Speech Communications	5
PHR 266 First Aid	3
PL	1

SOPHOMORE YEAR

	Credits
BES 211 Bhvrl Studies	3
HUM 211 Humanities	4
CBS 211 Bio. Sci	3
PHR 231 Flk & Soc. Dance	3
PHR 245 Leadership in Rec	4
BES 221 Bhvrl Studies or CPS Phys. Sci	3
HUM 221 Humanities	4
CBS 221 Biolog. Sci	3
#PHR 100 Team Sports (M)	(2)
#PHR 312 Basktball (W)	(3)
SY 201 Prin. of Soc	4
CMS 111 Fund. Math	4
HUM 231 Humanities	4
CBS 231 Biol. Sci	3
PSY 201 Gen. Psychology	4

(Therapeutic Recreation Concentration)

FRESHMAN YEAR

	Credits
SSC 211 (SY 201) Intro Sy	4
EH English	3

Colleges

UNIVERSITY COLLEGE

*CPS 223 Phys. Sci.	4
PHR 244 Intro. to Rec.	3
PL	1
PHR 266 First Aid	3
*SSC 221 Soc. Sci.	3
EH English	3
*CPS 311 Phys. Sci.	3
Elective	3
PL	1
PSY 201 (BES 111) Intro. Psy.	4
*SSC 222 Soc. Sci.	3
EH English	3
PHR 220 Rec. Sports	3
Elective	2
PL	1

SOPHOMORE YEAR

	Credits
ZY 201 (CBS 211) Intro. Zy.	4
*HUM 211 Humanities	4
PHR 231 Flk & Soc Dance	3
PHR 245 Ledrship in Rec.	4
PHR 261 Ind. & Family Health	5
*HUM 221 Humanities	4
CBS 221 Bio. Sci.	3
Elective	5
BES 211 (PSY 340)	5
CMS 111 Fund. Math	4
*HUM 231 Humanities	4
*CBS 231 Bio. Sci.	3

* Many choices in CPS, SSC, HUM, and CBS are acceptable.

\# Two team activities, two individual activities, as part of four or more courses required with a minimum of eight hours. (All PPE courses)

The science requirement calls for at least six credit hours in one science and nine credit hours in the other.

College of Agriculture

AGRICULTURAL AND EXTENSION EDUCATION
AGRICULTURAL ENGINEERING
(See College of Engineering)
AGRONOMY
ANIMAL SCIENCES
ANIMAL SCIENCE
BOTANY
DAIRY SCIENCE
ENTOMOLOGY AND NEMATOLOGY
FOOD AND RESOURCE ECONOMICS
FOOD SCIENCE
SCHOOL OF FOREST RESOURCES AND CONSERVATION
FRUIT CROPS
MECHANIZED AGRICULTURE
MICROBIOLOGY AND CELL SCIENCE
ORNAMENTAL HORTICULTURE
PLANT PATHOLOGY
PLANT SCIENCES—GENERAL
POULTRY SCIENCE
SOIL SCIENCE
STATISTICS
VEGETABLE CROPS
VETERINARY SCIENCE

College of Agriculture

The aim of the College of Agriculture is to provide students with the best education possible for service in agricultural business, technology, and science.

The departments in the College are: Agricultural and Extension Education, Agricultural Engineering, Agronomy, Animal Science, Dairy Science, Entomology and Nematology, Food and Resource Economics, Food Science, Fruit Crops, Ornamental Horticulture, Plant Pathology, Poultry Science, Soil Science, Vegetable Crops, and Veterinary Science. Degree programs are available through the College of Agriculture in Botany, Microbiology and Cell Science and Statistics departments administered in the College of Arts and Sciences. The School of Forest Resources and Conservation is a specialized faculty within the College of Agriculture.

REQUIREMENTS FOR ADMISSIONS

The University of Florida and the College of Agriculture encourage applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this college.

University College Students: Any student in University College who has finalized his decision to study Agriculture may transfer to the College of Agriculture after completing one quarter in University College. To be eligible for admission students must have a minimum of a C average on all work completed and have demonstrated by selection of pre-professional courses their intent to pursue a program in agriculture.

Transfer Students: To be eligible for admission to the College of Agriculture, a transfer student must satisfy the minimum requirements for admission to an Upper Division College that are set forth in the ADMISSIONS Section of this catalog. Additionally, the applicant must satisfy the following specific requirements for consideration by the College of Agriculture: (1) Complete the courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the University College section of this catalog or their equivalent, and, (2) pass all required preprofessional courses with a minimum grade of C. The following conditions will serve as a guide in expediting transfer to the College of Agriculture in compliance with the above requirements. In the event enrollment quotas become necessary because of limited space or teaching resources, selection of those admitted will be on the basis of past academic performance.

A. Students attending four-year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore years for students planning to enter the College of Agriculture as outlined in the University College section of this catalog.

B. Junior College students should:

1. Complete the two-year college parallel program at the junior college.
2. Satisfy the general education requirements established for the junior college.
3. Complete a program of chemistry through qualitative analysis and mathematics through college algebra and trigonometry.
4. Complete basic courses in botany and zoology.
5. Complete a course in general economics.
6. Choose elective courses in fulfilling the required total hours in the college-parallel program from the areas of general education, basic science, and mathematics.
7. Avoid specialized professional courses. Professional courses can be taken to much better advantage after the student has acquired the appropriate background in general education and basic science courses.

BACHELOR OF SCIENCE IN AGRICULTURE BASIC CURRICULUM

In addition to the 96 credits required for entrance to the College of Agriculture, 96 credits must be earned in the College of Agriculture curriculum for a combined total of 192 credits required for the Bachelor of Science in Agriculture degree. The following curriculum common to all areas of agriculture designates specific requirements and electives for the degree Bachelor of Science in Agriculture. Some of these courses may be taken as electives in the lower division. It is especially important that students in junior colleges, planning to transfer to the College of Agriculture, select courses from the core requirements as electives.

Curriculum — College of Agriculture — 96
Core Requirements — 8 Credits

Courses	*Credits*
Communications	8

Electives—selected from SCH 201, EH 302, 303, 403, and JM 420

Other Requirements and Electives—88 Credits

Requirements and electives in student's major department	min. 20—max. 40
Other requirements, free and approved electives	48-68

PRACTICAL WORK EXPERIENCE

By prior arrangement with individual Department Chairmen and approval of the Dean, students may, during their course of study, receive credit for practical work under competent supervision in any recognized and approved agricultural or related pursuit relevant to their college program. Credit is normally earned at the rate of one credit per month of full-time work and may not exceed a total of four in any combination of experiences. A formal written report must be submitted before a grade (S-U) will be issued.

Departments offering this option have listed the course number 400 in their catalog listing of courses. Guidelines are available from the College and individual departments, establishing minimum criteria for credit eligibility and performance.

DEAN'S LIST AND GRADUATION WITH HONORS OR HIGH HONORS

A student who carries 15 hours per quarter with a grade point average of 3.3 or better and no grade less than C in any course will have his name placed on the Dean's list for that quarter.

Students completing the requirements for the B.S. in Agriculture degree are eligible to be considered for graduation with Honors or High Honors.

To graduate with Honors a student must have a University of Florida Upper Division grade point average of 3.5, or above. (For purposes of honors the University of Florida Upper Division courses are defined as all courses taken at this University after the student has earned 96 credits, wherever taken.)

To graduate with High Honors the same requirements apply as for Honors except that the grade point average must be 3.75 or above.

GRADUATE TRAINING IN AGRICULTURE

The College of Agriculture offers five advanced degrees: Master of Agriculture, Master of Science in Teaching (nonthesis), Master of Science, Master of Agricultural Management and Resource Development, and Doctor of Philosophy.

Students contemplating graduate study should consult with their adviser as early as possible to insure proper program planning.

SPECIAL PROGRAMS

SCIENCE, TECHNOLOGY, AND BUSINESS

Students in agriculture may specialize in one of three broad areas of knowledge—Agricultural Science, Agricultural Technology, and Agricultural Business, all within the

framework of 192 credits for the degree Bachelor of Science in Agriculture.

For a specialization in Agricultural Science at least 18 credits of the 192 total are required in one or more of the areas of the Physical (CY, GY, PS) and Biological Sciences (MCS, BTY, EY, PT, AY 362) and Mathematics (MS), in addition to those required in the University College.

For a program in Agricultural Technology a choice of courses in applied agriculture is planned by the separate departments of the College of Agriculture in areas of the student's special interest.

For Agricultural Business Specialization at least 20 credits of the 192 total required must be completed from the areas of Food and Resource Economics (FRE) and Business Administration (ATG, ES, FI, MGT, MKG), in addition to those required in the University College plus a departmental major.

The chairman of the department in which the student majors (or his appointee) will act as the student's adviser, assist the student in arranging his course of study, and make necessary recommendations to the Dean. The student's courses for each quarter are subject to the approval of the Dean and the Department Chairman.

TROPICAL AGRICULTURE

A program for a specialization (with certificate) in Tropical Agriculture for undergraduate and graduate students in the College of Agriculture is available. The program provides course selection to broaden the normal degree requirements for those interested in specializing in Tropical Agriculture. Students enrolled in any one of the existing major programs in the College of Agriculture may pursue this specialization.

The Certificate in Tropical Agriculture specialization will include courses from four basic groups as follows: Area Studies, International Economics, Tropical Ecosystems, and Tropical Agriculture. A total of at least 20 quarter credits from courses which relate to non-U.S. tropical areas of the world is required from Area Studies, International Economics and Tropical Ecosystems with at least 4 credits from each category. In addition, a minimum of 20 credits from Tropical Agriculture courses related to production of agricultural commodities in tropical areas of the world is required.

The courses required for this specialization will be determined by the student in consultation with a departmental adviser from an approved list of courses as indicated in the Tropical Agriculture Specialization guidelines. In most cases the requirements may be met through a wise choice of electives. Students interested in this specialization should consult their departmental adviser.

A certificate program for non-agriculture students desiring to broaden their major program with courses relating to Tropical Studies with an emphasis in Agriculture is also available.

The Certificate in Tropical Studies will require 20 quarter credits in courses from the three basic groups: Area Studies, International Economics, and Tropical Ecosystems and a minimum of 15 credits from Tropical Agriculture courses.

The courses required for this Certificate will be determined by the student in consultation with a departmental adviser and approved by the Dean of the College of Agriculture. Students interested in this program should consult the Dean of Agriculture.

The departments or disciplines from which courses may be selected are listed below. The specific courses as well as all details of the program are given in a Tropical Agriculture Specialization guideline statement to be used by departmental advisers.

Area Studies
Anthropology
Education
Geography
History
Journalism
Latin American Studies
Law
Political Science
Sociology
Others as appropriate

International Economics
Economics
Food and Resource Economics
Marketing
Others as appropriate

Tropical Ecosystems
Agronomy
Biological Sciences
Botany
Forestry
Zoology
Others as appropriate

Tropical Agriculture
Agricultural Engineering
Agronomy
Animal Science
Entomology
Food and Resource Economics
Fruit Crops
Ornamental Horticulture
Plant Pathology
Soil Science
Vegetable Crops
Veterinary Science
Others as appropriate

PEST MANAGEMENT AND PLANT PROTECTION

Students in the Pest Management and Plant Protection Specialization will receive instruction in the principles of Entomology, Nematology, Plant Pathology, and Weed Science. An understanding of the component parts of the crop-plant ecosystem as related to management of all groups of pests through the application of biological, chemical and integrated systems compatible with a quality environment will be provided.

Students who select the Pest Management and Plant Protection Specialization will major in one of the following programs in the College of Agriculture: Agronomy, Entomology and Nematology, Fruit Crops, Ornamental Horticulture, Plant Pathology, Plant Sciences, or Vegetable Crops. Students who complete the requirements for the Bachelor of Science degree with this specialization should find many employment opportunities in agri-business enterprises or government agencies concerned with plant pest management, crop production, and/or environmental protection. In addition the successful completion of this undergraduate program will place the student in excellent competitive position as a candidate for graduate studies in any one of the programs cooperating in the undergraduate major program at the University of Florida or any other university.

Interested students should contact an academic adviser and should complete the following required courses in addition to the major progam requirements. In most cases the requirements of this specialization may be met through the course requirements of the major program, a wise choice of electives and within the 192 credits required for the Bachelor of Science in Agriculture.

	Credits
PM 313 Fundamentals of Plant-Pest Management	3
PM 321 Seminar in Basic Plant-Pest Management	2
PM 340 Internship in Plant-Pest Management	3-4
PM 421 Seminar in Applied Plant-Pest Management	1
PM 435 Systems of Pest Management and Plant Protection	3
PM 436 Laboratory Exercises in Pest Management	2
PLS 201 Fundamentals of Crop Production	4
BTY 301 Introduction to Ecology	5
BTY 310 Elementary Plant Physiology	4
BTY 311 Elementary Plant Physiology	2
BTY 370 Elementary Organic and Biological Chemistry	5
SLS 330 General Soils	5
AY 362 Genetics	4
Required Electives, AY, PLS, FC, OH, VC (Production Courses)	8

CERTIFICATE MINOR IN ENVIRONMENTAL STUDIES

A program for a minor (with certificate) in environmental studies has been developed. The program provides course selection to obtain a broad knowledge of the environment, especially the inter-relationships between the activities of man and environmental quality. Students enrolled in one of the existing major programs in the College of Agriculture and for this minor will learn to apply their major discipline to the solution of environmental problems.

The environmental studies minor will include environmental courses in three basic groups as follows: biological

sciences, physical sciences, and social sciences. At least one course from each of these three groups is required. A minimum of 18 quarter hours credit is required for the minor. Courses required for the major cannot be counted toward the minor requirement. A minimum of three hours outside the College of Agriculture is required.

The courses required for this minor will be determined by the students in consultation with their departmental adviser from an approved list of courses prepared by the department, the College of Agriculture and the University. In most cases these requirements may be met through a wise choice of electives. Students interested in this minor should consult their departmental adviser.

PRE-VETERINARY MEDICINE

The College of Veterinary Medicine, University of Florida, admits a limited number of students each fall for the pursuit of a degree Doctor of Veterinary Medicine. The following courses must be completed with no grade less than C and a minimum grade point average of 2.5:

	Quarter Credits
Principles of Animal Biology, lecture and laboratory (ZY 201, ZY 202)	9
Microbiology (MCS 202-203)	5
Genetics (AY 362 or ZY 325)	4-5
Chemistry:	27
Inorganic Chemistry (General and Qual.); lecture and laboratory (CY 201, CY 202, CY 203 and CY 204; or CY 211, CY 212 and CY 213)	12-16
Organic Chemistry; lecture and laboratory (CY 381-384; CY 382-385)	10
Quantitative Analysis (CY 330 or CY 331)	5
Physics (PS 211, PS 212, PS 221, PS 222)	10
Mathematics: Calculus* (MS 301)	5
Animal Science:	
Introduction to Animal Science (ADP 311)	5
Feeds and Feeding (ADP 314-315)	5
Humanities (HUM 211; HUM 221; HUM 231, 232, or 233)	9-12**
Social Science (SSC 111; SSC 221, 222, 223 or 352; SSC 231, 232, 281 or 353)	9
English (EH 111; Comprehensive English; EH 121; EH 122 or EH 123)	9
Electives (e.g., Agriculture, Computer Science, Economics, Humanities, Journalism, Political Science, Psychology, Social Sciences, Statistics, etc.)	20-23
Total	120

*Trigonometry and Algebra at the high school or college level are required for admission to courses in Calculus.

**Nine quarter credits will be accepted if taken as a requirement for an Associate of Arts degree.

Because of the rigid course requirements, most students require somewhat more than two years to complete this curriculum. Also, since admission to Veterinary School is competitive, students usually need to make considerably more than the minimum grade point average of 2.5.

Pre-veterinary students should consult the Dean of the College of Agriculture before registering for the pre-veterinary curriculum.

Residents of Florida who will have completed the pre-veterinary requirements in June of the year that entrance into the School of Veterinary Medicine is desired in the Fall, and who wish to be included in the State's list of eligibles, should contact the Dean of the College of Veterinary Medicine.

AGRICULTURAL ENGINEERING

BACHELOR OF SCIENCE IN ENGINEERING (Agricultural Engineering)

The Agricultural Engineering curriculum is offered cooperatively by the College of Agriculture and the College of Engineering. Students in this major receive basic training in engineering and agriculture so that they are prepared to solve the specialized and unique engineering problems of agricultural production and processing systems and the management and conservation of agricultural land and water resources. Since engineering problems in agriculture relate to biological production and processing of biological products, training in agricultural and biological courses is obtained. Students desiring careers in Agricultural Engineering will register in the College of Engineering. See College of Engineering for curriculum.

AGRONOMY

(See Plant Sciences)

Agricultural and Extension Education

The Agricultural and Extension Education curriculum is designed to prepare students for careers in agricultural education and the cooperative extension service. Students majoring in this department have a common core curriculum which combines courses in technical agriculture, professional education, and/or extension methodology. The department chairman or one of the departmental counselors will advise students majoring in this department in the selection of electives and requirements to meet the students' career goals.

The student completing this program will be required to satisfy the College of Agriculture core curriculum requirements.

College of Agriculture Core Requirements — 8 credits

Departmental Requirements — 46 credits

	Credits
*AED 321 Development and Philosophy of Agricultural Education	4
*AED 324 Instructional Techniques in Agricultural Education	4
*AED 419 Organization of Agricultural Education Programs	4
*AED 421 Special Methods in Teaching Vocational Agriculture	4
*AED 423 Laboratory Practices in Teaching Agricultural Education	4
*AED 439 Agricultural and Extension Education Practicum	2-16
AED 440 Agricultural Extension Practicum	2-16
*EDF 342 The Adolescent (or equivalent)	5
AED 428 Agricultural and Vocational Career Education	4
AED 301 Development and Role of Extension Education	4
AED 407 Agricultural Youth Programs	4
AED 496 Individual Work in Agricultural and Extension Education	1-8

*Other Requirements and Electives — 42 credits***

	Credits
MCA 303 Agricultural Mechanics 1	4
MCA 407 Agricultural Mechanics 2	5
FRE 301 Principles of Food & Resource Economics	5
ADP 311 Introduction to Animal Science	5
PLS 201 Fundamentals of Crop Production	4
SLS 330 General Soils	5
EY 301 Principles of Entomology	3
EY 311 Principles of Entomology Laboratory	2
***Electives in Agriculture	9

*The student planning to qualify to teach in the public schools will complete a minimum of 46 quarter hours from the above list of professional courses. The courses indicated by an asterisk (*) are required.

**Substitutions must be approved by the Chairman of Agricultural and Extension Education.

***To be planned by department counselor.

ANIMAL SCIENCES — GENERAL

Animal Science, Dairy Science, Poultry Science

Animal Science, Dairy and Poultry Science students in certain options have a common core requirement of

courses. Additional requirements and electives within all options should be discussed with the Chairman or Counseling representatives of the Department in which the student chooses to major.

College of Agriculture Core Requirements — 8 Credits
Animal Sciences Core Requirements — 39-50 Credits

	Credits
ADP 311 Introduction to Animal Science	5
ADP 322 Principles of Animal Breeding	5
ADP 314 Principles of Animal Nutrition	3
ADP 315 Applied Animal Nutrition	2
ADP 421 Seminar	1
*SLS 330 General Soils	5
VY 321 Anatomy and Physiology	5
AY 362 Genetics	4
*AY 432 Forages and Pasture Science	5
MCS 302 Basic Biology of Microorganisms	3
MCS 303 Basic Biology of Microorganisms Laboratory	2
ATG 201 Elementary Financial Accounting	5
or	
FRE 310 Farm Firm Management	5
BTY 370 Elementary Organic and Biological Chemistry	5
Approved Electives AL, DY, PY	12-26
Free Electives	22-26

*Students in Poultry Science and Laboratory Animal Science are not required to take AY 432 and SLS 330.

ANIMAL SCIENCE

Curricula in Animal Science meet the educational requirements for those interested in options in Animal Science and in Laboratory Animal Science. Animal Science is designed to give students a foundation in the basic sciences and fundamental training in the various phases of the beef cattle, swine, horses, sheep, laboratory animals and meat industries. Early in their college planning, students should discuss the programs and their implications with the Department Chairman or his counseling representatives.

College of Agriculture Core Requirements — 8 Credits
Animal Science Core Requirements — 39-50 Credits
Requirements for options in Animal Science — 12-26 Credits
Free and approved electives — 22-26 Credits

Students selecting the Animal Science option are required to take 12 hours in the following courses: AL 411, AL 413, AL 414, AL 415, AL 434, and AL 423.

Students selecting the Laboratory Animal Science option are required to take AL 332, AL 430, AL 431, VY 405, EY 301, MGT 350 (or STA 320) and may also omit ADP 311 but should elect one additional Animal Science course.

Furthermore, it is the prerogative of the student to select additional courses which will satisfy a specialization in Science, Technology or Business in their field of major interest.

DAIRY SCIENCE

Two curricula are offered. Students should consult with department chairman or guidance counselor in selecting the curriculum and in choice of electives.

CURRICULUM I—DAIRY SCIENCE

This curriculum is designed for students interested in dairy production, pre-veterinary medicine or post-graduate study.

College of Agriculture Core Requirements — 8 Credits
Animal Sciences Core Requirement — 49-50 Credits
Departmental Requirements — 18 Credits

	Credits
DY 301 Dairy Cattle Management	4
DY 405 Dairy Cattle Nutrition	3
DY 407 Physiology of Lactation or	
ADP 407 Reproduction in Farm Animals	4
Electives in Dairy Science	7
Approved Electives	20-21

CURRICULUM II—DAIRY MANAGEMENT

The curriculum is designed for students interested in managing dairies or dairy enterprises, or careers in allied agribusinesses.

College of Agriculture Core Requirements — 8 Credits
Required Courses from Animal Sciences Core — 34 Credits (ADP 311, ADP 314, ADP 315, AY 362, AY 432, BTY 370, SLS 330, VY 321)
Management Core Requirements — 21 Credits

	Credits
FRE 304 Computer and Linear Programming for Agriculture	3
FRE 310 Farm Firm Management	5
MS 204 Calculus for Economics and Business or	
MS 301 Analytical Geometry and Calculus I	5
ATG 201 Elementary Financial Accounting	5
ATG 203 Elementary Managerial Accounting	3

Departmental Requirements — 18 Credits

DY 301 Dairy Cattle Management	4
DY 405 Dairy Cattle Nutrition	3
DY 407 Physiology of Lactation or	
ADP 407 Reproduction in Farm Animals	4
Electives in Dairy Science	7
Approved Electives	15

POULTRY SCIENCE

Two curricula are offered by the Department of Poultry Science. Students should consult the Chairman or the departmental counselor for guidance in making their curriculum choice and for approval of electives.

CURRICULUM I—GENERAL OR SCIENCE

This curriculum is designed for those students interested in training in poultry production, pre-veterinary medicine or in preparing for graduate study.

College of Agriculture Core Requirements — 8
Animal Sciences Core Requirements — 39-40
Departmental Requirements — 15-29 credits

Students selecting this curriculum are required to take a minimum of 15 hours from the following Poultry Science and related courses: PY 312, PY 415, PY 453, ADP 420, ADP 422, VY 401, PY 414 and PY 222.

Electives (Free and Approved) 20-34

CURRICULUM II—MANAGEMENT OR BUSINESS

This curriculum is designed for those students who plan a career in any of various phases of the poultry or allied industries with major emphasis on the management or business aspect.

College of Agriculture Core Requirements — 8
Courses from Animal Sciences Core — 24 credits

The following courses are required: ADP 311, ADP 314, ADP 315, VY 321, AY 362 and BTY 370.

Required Management Core — 21 credits

	Credits
FRE 304 Computers and Linear Programming for Agriculture	3
MS 204 Calculus for Economics & Business or	
MS 301 Analytical Geometry and Calculus I	5
FRE 310 Farm Firm Management	5
ATG 201 Elementary Financial Accounting	5
ATG 203 Elementary Managerial Accounting	3

Departmental Requirements — 15 credits

Students are required to take PY 415 and a minimum of 11 hours from the following Poultry Science and related courses: PY 312, PY 453, ADP 420, ADP 422, VY 401, PY 414 and PY 422.

Free Electives 11

Approved Electives — 17 credits

Approved electives are to be taken from Poultry Science and related courses listed above or from the following courses: STA 320, FRE 320, FRE 330, FRE 460, FRE 465, MGT 350, BA 402, ADP 322, MCS 300, MCS 301, and AL 527.

BOTANY

A major in botany is offered through the College of Agriculture. Students should consult with the Undergraduate Coordinator for curriculum. (See Botany, College of Arts and Sciences for course listing.)

DAIRY SCIENCE

See Animal Sciences—General

ENTOMOLOGY & NEMATOLOGY

Entomology and nematology are biological sciences dealing with two principal groups of Invertebrate animals. The curricula are designed to give basic training in entomology and nematology and specialized programs in various areas of these two sciences.

College of Agriculture Core Requirements — 8 credits
Departmental Requirements — 30 Credits

	Credits
EY 301 Principles in Entomology	3
EY 311 Principles of Entomology Laboratory	2
or	
EY 328 General Entomology	4
EY 410 Insect Physiology and Morphology	5
EY 412 Insect Ecology, Behavior, and Systematics	5
EY 460 Insect Identification	5
EY Electives	10 or 11

Other Requirements and Electives—58 Credits

BTY 370 Organic & Biochemistry or equivalent	5
Electives in Agriculture and/or Biological Sciences	32
Suggested Courses: AY 362, ZY 308	
Approved Electives	21

For the Pest Management and Plant Protection Specialization, students must consult the department chairman for approved courses.

FOOD AND RESOURCE ECONOMICS

Six curricula are offered by the Department of Food and Resource Economics. The curriculum selected by the student will depend upon the nature of his interest in the field. Students should consult the chairman of the department or the departmental counselor for guidance in making their choice of a curriculum and for approval of electives.

CURRICULUM I — FOOD AND RESOURCE ECONOMICS

This curriculum is designed for those students interested primarily in training as professional agricultural economists or in preparing for graduate study.

College of Agriculture Core Requirements — 8 Credits
Departmental Requirements — 31 Credits

	Credits
FRE 300 Food and Resource Economics Junior Seminar	1
FRE 301 Principles of Food and Resource Economics	5
FRE 310 Farm Firm Management	5
FRE 320 Marketing	5
FRE 401 Food and Resource Economics Senior Seminar	1
FRE 425 Agric. Price Analysis and Consumer Behavior	4
FRE 440 Public Policy in Agric	4
FRE 460 Quantitative Methods in Agricultural Economics	4
Electives in Food and Resource Economics	2

Other Requirements and Electives — 57 Credits

ES 201 Basic Economics	5
ES 401 Macro Theory	5
ES 402 Micro Theory	5
MS 301 Calculus 1	5
MS 302 Calculus 2	5
STA 320 Statistics	4
STA 420 Sampling	3
Free and Approved Electives	25

CURRICULUM II — AGRICULTURAL BUSINESS MANAGEMENT

This curriculum is designed for those students interested in administrative and service aspects of agriculture or related businesses. Students who elect this curriculum and later decide to do graduate study will be required to take without credit toward a graduate degree courses required under Curriculum I that they have not taken under Curriculum II.

College of Agriculture Core Requirements — 8 Credits
Departmental Requirements — 35 Credits

	Credits
FRE 300 Food and Resource Economics Junior Seminar	1
FRE 301 Principles of Food and Resource Economics	5
FRE 310 Farm Firm Management	5
FRE 320 Marketing	5
FRE 401 Food and Resource Economics Senior Seminar	1
FRE 425 Agric. Price Analysis and Consumer Behavior	4
FRE 440 Public Policy in Agric	4
FRE 460 Quantitative Methods in Agricultural Economics	4
*Quantitative Methods	3-4
Electives in Food and Resource Economics	2 or 3

Other Requirements and Electives — 53 Credits

ES 201 Basic Economics	5
MS 204 Calculus for Economics & Business	5
or	
MS 301 Analytical Geometry & Calculus 1	5
ES 301 National Income Determination & Policy	5
ES 302 Prices & Markets	3
STA 320 Statistics	4
ATG 201 & 203 Elementary Accounting	8
BA 402 Business Law	5
or	
FRE 305 Law Applied to Agriculture	4
Free and Approved Electives	18-19

*This requirement can be satisfied with FRE 465, STA 420, MGT 470.

CURRICULUM III — CO-MAJOR WITH OTHER DEPARTMENTS

Students majoring in other departments who feel the need for a better understanding of the economics of agriculture and the relationship of agriculture to the general economy can also take a Co-Major in Food and Resource Economics. The curriculum for such Co-Major includes 25 quarter hours of required courses in Food and Resource Economics, 9 quarter hours in related fields, and 62 hours to meet the requirements of other participating departments and for electives. Elective courses will be selected to *fit the needs and interests of the student.*

College of Agriculture Core Requirements —8 Credits*
Departmental Requirements — 25 Credits

	Credits
FRE 300 Food and Resource Economics Junior Seminar	1
FRE 301 Principles of Food and Resource Economics	5
FRE 310 Farm Firm Management	5
FRE 320 Marketing	5
FRE 401 Food and Resource Economics Senior Seminar	1
FRE 425 Agric. Price Analysis and Consumer Behavior	4
FRE 440 Public Policy in Agric	4

Other Requirements and Electives — 63 Credits

STA 320 Introduction to Statistics..... 4
ES 201 Basic Economics..... 5
Free and Approved Electives..... 54

*Students taking a Co-Major in Food and Resource Economics and graduating in some other college will not be required to meet the curriculum core requirements of the College of Agriculture. Such students will have 62 instead of 54 hours of free and approved electives.

CURRICULUM IV—RURAL SOCIOLOGY

This curriculum is designed to train rural sociologists for teaching, research, and as consultants because of rapid social and economic changes on the national and international levels.

College of Agriculture Core Requirements — 8 Credits
Departmental Requirements — 25 Credits

Credits

FRE 300 Food and Resource Economics Junior Seminar.. 1
FRE 301 Principles of Food and Resource Economics..... 5
FRE 310 Farm Firm Management..... 5
FRE 320 Marketing..... 5
FRE 401 Food and Resource Economics Senior Seminar.. 1
FRE 430 Land Economics..... 4
FRE 440 Public Policy in Agric..... 4

*Other Requirements and Electives — 63 Credits**

STA 310 Statistics for the Social Sciences..... 4
SY 355 Rural Sociology..... 4
SY 442 Methods of Social Research..... 4
SY 471 Population..... 4
SY 464 Comparative Sociology Theory and Methods..... 4
Free and Approved Electives..... 43

*SY 201, Principles of Sociology, required during second year.

CURRICULUM V—FOOD MARKETING AND DISTRIBUTION

This curriculum is designed for students interested in employment at the managerial level in the Food Industry.

College of Agriculture Core Requirements — 8 Credits
Departmental Requirements — 32 Credits

Credits

FRE 300 Food and Resource Economics Junior Seminar.. 1
FRE 301 Principles of Food and Resource Economics..... 5
FRE 320 Agric. Marketing..... 5
FRE 401 Food and Resource Economics Senior Seminar.. 1
FRE 421 Terminal Markets..... 2
FRE 425 Agric. Price Analysis..... 4
FRE 426 Food Wholesaling..... 3
FRE 427 Food Retailing..... 3
FRE 460 Quantitative Methods in Agricultural Economics..... 4
FRE 465 Activity Analysis—Decision Making..... 4

Other Requirements and Electives — 56 Credits

ES 201 Basic Economics..... 5
ES 301 National Income Determination & Policy..... 5
ES 302 Prices and Markets..... 3
MS 204 or
MS 301 Calculus..... 5
STA 320 Introduction to Statistics..... 4
ATG 201 & 203 Elementary Accounting..... 8
BA 402 Business Law..... 5
Free and Approved Electives..... 21

CURRICULUM VI—NATURAL RESOURCE AND ENVIRONMENTAL ECONOMICS

This curriculum is designed for those students interested in natural resources and environmental quality with emphasis on economic problems and decision making relating to these areas. Students who elect this curriculum and later decide to do graduate study will be required to take without credit toward a graduate degree courses required under Curriculum I.

College of Agriculture Core Requirements — 8 Credits
Departmental Requirements — 37 Credits

Credits

FRE 300 Food and Resource Economics Junior Seminar.. 1
FRE 301 Principles of Agric. Econ..... 5
FRE 310 Farm Firm Management..... 5
FRE 320 Marketing..... 5
FRE 401 Food and Resource Economics Senior Seminar.. 1
FRE 425 Agri. Price Analysis and Consumer Behavior..... 4
FRE 465 Activity Analy. for Econ. Decisions..... 4
FRE 460 Quantitative Methods in Agri. Econ..... 4
FRE 332 Economics of Environmental Quality..... 4
FRE 430 Land Economics..... 4

Other Requirements and Electives — 51 Credits

ES 201 Basic Economics..... 5
ES 301 National Income Determination & Policy..... 5
ES 302 Prices & Markets..... 3
STA 320 Statistics..... 4
ATG 201 & 203 Elementary Accounting..... 8
MCA or
SLS 333 Agri. and Environmental Quality..... 4
Free and Approved Electives..... 22

*At least three electives must be chosen from courses that include the following: MCA 301, SLS 330, EY 301, FRC 353, ENE 301, ES 331, GPY 351, GPY 438, RE 350, RE 470, BTY 301.

FOOD SCIENCE

The Department of Food Science offers three curricula, Food Science, Food and Consumer Protection, and Nutrition and Dietetics. These curricula are designed to provide an understanding of the applications of basic sciences, engineering and management to the handling, processing, manufacturing, marketing and utilization of human foods and the effects of these functions upon our environment. Wholesomeness, nutritive value, safety, convenience and availability of foods are stressed, with further emphasis on ecological and environmental effects. Students in all curricula take a common core of courses, required courses for their area of concentration, and electives.

The Food Science curriculum offers ample opportunity for electing courses in areas of special interest, such as food processing and manufacturing, management or sales; and graduate study and research in Food Science or related fields. For those wishing to specialize in the manufacture, handling and evaluation of products of dairy, fruit, meat, poultry and vegetable origin, an opportunity is available for cooperative programs with the commodity departments. Students interested in the environmental aspects of food and life systems should choose the Food and Consumer Protection curriculum. This curriculum will prepare students for employment in the areas of food regulation, quality control, and environmental control. The Nutrition and Dietetics curriculum is designed to prepare students for a general dietetics internship program upon graduation. Students should consult the departmental counselors for guidance and approval of electives.

College of Agriculture Core Requirements — 8
Department Core Requirements — 38 credits

Credits

FS 250 Fundamentals of Human Nutrition..... 4
FS 301 Introductory Food Science..... 4
FS 402 Food Chemistry..... 5
FS 403 Food Microbiology..... 5
FS 412 Food Analysis..... 5
CY 362-363 Organic Chemistry..... 6
MCS 302 Basic Biology of Microorganisms..... 5
STA 320 Introduction to Statistics..... 4

CURRICULUM I—FOOD SCIENCE

Additional requirements and electives — 50 credits

Credits

FS 404 Principles of Food Engineering..... 5
FS 411 Government Regulations and the Food Industry.. 2

FS 414 Statistical Quality Control and Sensory Evaluation of Foods..... 3
FS 421 Food Science Seminar..... 1
FS 450 Principles of Food Processing..... 5
MS 301 Analytical Geometry & Calculus..... 5
Electives (including one commodity-oriented processing course)..... 29

CURRICULUM II—FOOD AND CONSUMER PROTECTION

Additional requirements and electives — 50 credits

	Credits
FS 411 Government Regulations and the Food Industry	2
FS 414 Statistical Quality Control and Sensory Evaluation of Foods	3
FS 415 Environmental Toxicology and Public Health	4
FS 421 Food Science Seminar	1
FS 441 Food Epidemiology	4
FS 450 Principles of Food Processing	5
EY 301 Principles of Entomology	4
MS 301 Analytical Geometry & Calculus	5
Electives	22

NOTE: Recommended Electives for Curriculum II—AG 200—Agriculture in the Environment; FS 203—Toxic Substances in Foods; EY 420—Medical and Veterinary Entomology; MGT 401—Business Law; ZY 505—General Ecology; ENE 420—Environmental Biology; ENE 422—Public Health Engineering.

CURRICULUM III—NUTRITION AND DIETETICS

Additional requirements and electives— 50 credits

	Credits
FS 350 Introduction to Human Nutrition	4
FS 405 Human Nutrition	4
FS 406 Nutrition and Disease	4
FS 407 Food Systems Management	4
FS 421 Food Science Seminar	1
BCH 351 Introduction to Human Biochemistry	3
EDF 442 Educational Psychology	5
HRP 331 Basic Anatomy & Physiology (MED 331)	4
MGT 310 Principles of Management	4
MGT 350 Personnel Management	4
PSY 201 General Psychology	4
SY 201 Principles of Sociology	4
Electives	5

FOREST RESOURCES AND CONSERVATION

(For Bachelor of Science Degree Requirements, See Listings Under School of Forest Resources and Conservation.

FRUIT CROPS

(See Plant Sciences)

MECHANIZED AGRICULTURE

Students who major in mechanized agriculture become specialists in the area of agricultural mechanization and management. The curriculum provides basic and practical training relating to agricultural machines, processing systems and structures and mechanized processing and handling systems. Graduates from this program are well prepared for careers in those parts of the agribusiness industry where mechanization of agricultural production and operations are involved. Consultation with counselors in the Department of Agricultural Engineering permits the students to wisely select elective courses so that their career objectives are satisfied.

For a major in mechanized agriculture the following program is offered.

College of Agriculture Core Requirements — 8 Credits
Requirements in Mechanized Agriculture — 24 Credits

	Credits
MCA 301 Agricultural Water Management	4
MCA 303 Agricultural Mechanics 1	4
MCA 306 Farm Machinery	4
MCA 401 Farm Buildings	4
AGE 403 Special Topics	3
MCA 404 Engineering Principles of Food Science	5

Other Requirements and Electives — 64 Credits

*MS 201 Analytic Geometry and Calculus..... 5
EY 301 Principles of Entomology..... 3
EY 311 Principles of Entomology Laboratory..... 2
SLS 330 General Soils..... 5
*PS 212-222 General Physics..... 5
*PS 213-223 General Physics..... 5
FRE 310 Farm Firm Management..... 5
**Free and approved electives..... 34

*These courses, including PS 211-221 should be taken as electives during the first two years.

**Approved electives within the 192 credits required include the following courses: AL 309, FC 341, PLS 201, AY 311, ATG 201, MKG 331, MGT 350, MCA 333, PSY 201, and others.

MICROBIOLOGY AND CELL SCIENCE

A major in Microbiology and Cell Science is offered through the College of Agriculture. Students should consult with the Undergraduate Coordinator for curriculum. (See Microbiology and Cell Science, College of Arts and Sciences, for course listing.)

ORNAMENTAL HORTICULTURE

(See Plant Sciences)

PLANT PATHOLOGY

The curriculum in Plant Pathology permits students to learn the principles of Plant Pathology and their applications to scientific agriculture. The following program is offered for a major in Plant Pathology with specialization in either Agricultural Science or Agricultural Technology. For the Pest Management and Plant Protection Specialization, students must consult the department chairman for approved courses.

College of Agriculture Core Requirements — 8 Credits
Departmental Requirements — 20 Credits

	Credits
PT 301 Lectures in Basic Plant Pathology	2
corequisite:	3
PT 311 Laboratory in Basic Plant Pathology, or PT 313 Laboratory in Forest Pathology	
PT 402 Principles of Plant Disease Control	4
PT 440 Transmission of Plant Pathogens by Vectors	3
EY 303 Principles of Nematology	4
MCS 302 Basic Biology of Microorganisms	3
MSC 303 Basic Biology of Microorganisms Laboratory	2
*PT 496 Problems in Intermediate Plant Pathology	1-5

Other Requirements — 35 Credits

	Credits
AY 362 Genetics	4
BTY 203 General Botany	5
BTY 310 Elementary Plant Physiology	4
BTY 311 Elementary Plant Physiology Laboratory	2
BTY 370 Elementary Organic and Biological Chemistry	5
EY 301 Principles of Entomology	3
EY 311 Principles of Entomology Laboratory	2

PLS 301 Plant Propagation..... 3
PLS 311 Plant Propagation Laboratory..... 2
SLS 330 General Soils..... 5

Approved Electives — 33 Credits

*Departmental elective.

PLANT SCIENCES

(Agronomy, Fruit Crops, Ornamental Horticulture, Vegetable Crops, Plant Science)

Students in the Plant Sciences have the option of majoring in Agronomy, Fruit Crops, Ornamental Horticulture, Vegetable Crops or the broad area of Plant Science. Curricula in each of the four departments and Plant Science include common College of Agiculture and Plant Sciences core requirements, departmental requirements and approved electives totalling 96 credits. Students should consult a counselor in their respective major department as early as possible for program planning; students electing a Plant Science curriculum rather than a departmental major should consult the Department of Agronomy.

College of Agriculture Core Requirements — 8 Credits
Plant Sciences Core Requirements — 39 Credits

	Credits
AY 362 Genetics	4
BTY 310 Elementary Plant Physiology	4
BTY 311 Elementary Plant Physiology Laboratory	2
BTY 370 Elementary Organic and Biological Chemistry	5
EY 301 Principles of Entomology	3
EY 311 Principles of Entomology Laboratory	2
PLS 201 Fundamentals of Crop Production	4
PLS 301 Plant Propagation	3
PLS 311 Plant Propagation Laboratory	2
PT 301 Basic Plant Pathology	2
PT 311 Laboratory in Basic Plant Pathology	3
SLS 330 General Soils	5

AGRONOMY

Curricula in Agronomy provide a sound educational experience for students in Agronomic Science, Technology, Business, Pest Management for Plant Protection or General Agronomy. Detailed programs are available in crop production including field, forage and pasture crops, as well as weed science, genetics and plant breeding.

Departmental Requirements — 20 Credits

	Credits
AY 311 Field Crop Science	4
AY 465 Plant Breeding	4
AY 484 Agronomy Seminar	1
AY 496 Problems in Agronomy	3
Electives in Agronomy	8

Other Requirements — 7 or 8

PLS 442 Weed Science	4
*PLS 452 Field Plot Techniques	3
**STA 320 Introduction to Statistics	4
Approved Electives	21-22

Recommended Electives

Science Specialization (21 credits):
BCH 411-412; CY 331; 381-382-384-385; MCS 302-303; MS 301-302; PS 211-212-221-222.

Technology Specialization (22 credits):
ADP 311-314-315; EY 303; FRE 310; MCA 306; SLS 426; VY 321.

Business Specialization (22 credits):
ATG 201; FI 322; FRE 304-310-302-410; MGT 310; PSY 201.

Pest Management for Plant Protection Specialization (17 credits):
Free Electives..... 5 credits
Additional Requirements:
PM 313-321-340-421-435; BTY 301..... 17 credits

General Agronomy (22 credits):
ADP 314-315; EY 303; FRE 304-305-310; MCS 300-301; MGT 310; PSY 201.

*Technology, Business, Pest Management for Plant Protection and General Agronomy Specializations.
**Science Specialization.

Each student has the prerogative of choosing approved electives from the respective group of courses listed above to meet the requirements of a specialization in Agronomic Science, Technology, or Business, Pest Management for Plant Protection and in General Agronomy.

FRUIT CROPS

Plant Sciences majors selecting an option in Fruit Crops receive a broad foundation in the science and technology of fruit production, handling and marketing, with emphasis on citrus and tropical fruits. Programs of study leading to specializations in technology, science and business are available.

Departmental Requirements — 22 Credits

	Credits
FC 335 Introduction to Citrus Culture	4
FC 403 Physiology of Fruit Production	5
FC 437 Citrus Maturity and Packinghouse Procedure	4
FC 441 Citrus Production	4
FC 450 Fruit Crops Laboratory 1	2
FC 451 Fruit Crops Laboratory 2	2
FC 499 Senior Seminar	1
Approved Electives	27

Students choosing the Agricultural Technology Specialization must select appropriate electives in technical agriculture and related courses to give them the proper background for careers in fruit production.

Those choosing the Agricultural Science Specialization will select electives in mathematics, physics, chemistry, and biology as a background for graduate work and careers in research, teaching, and extension.

Students will select approved electives in the fields of business, economics and management for the Agricultural Business Specialization.

Students must consult the department chairman as to approved courses for the Pest Management and Plant Protection Specialization.

ORNAMENTAL HORTICULTURE

Plant Sciences majors selecting an option in Ornamental Horticulture receive scientific or technical training in the production of flower, foliage, nursery and turf crops.

Departmental Requirements — 28 Credits

	Credits
OH 331 Fundamentals of Ornamental Plant Classification	4
OH 403 Ornamental Horticulture Seminar	1
OH 420 Principles of Nursery Operations	4
OH 441 Physiological Aspects of Ornamental Plant Production	4
OH 442 Production of Floricultural Crops	4
OH 462 Turfgrass Culture	4
Ornamental Horticulture Electives	7
Approved Electives	21

Emphasis on science, technology or business training on the basis of student career interest is possible by proper selection of electives under supervision of the departmental counselor.

Ornamental Horticulture electives: (May also be used as approved electives)
Nursery Specialization:
OH 332, 333, 363, 364, 400, 421, 422, 496, and LAE 353.
Floriculture Specialization:
OH 332, 333, 340, 400, 443, 444, 496, and HSC 640.
Turf Specialization:
OH 332, 333, 363, 364, 400, 421, 422, 463, and 496.
Landscape Horticulture Specialization:
OH 332, 333, 343, 363, 364, 365, 400, 496, and LAE 353.

Students must consult the department chairman as to approved courses for the Pest Management for Plant Protection Specialization.

VEGETABLE CROPS

The option in Vegetable Crops is designed to give the student an adequate foundation of basic plant science which, together with specific courses in the principles of production and marketing of vegetables, will prepare them for primary employment in any phase of the specialized vegetable industry.

Departmental Requirements — 20 Credits

	Credits
VC 310 Principles of Vegetable Production	3
VC 409 Commercial Cool Season Vegetable Crops	3
VC 410 Commercial Warm Season Vegetable Crops	4
Vegetable Crops Electives	10
Approved Electives	29

Elective hours, chosen with the advice of departmental counselors, enable students to study in an agricultural science or business specialization.

For the Pest Management for Plant Protection Specialization, students must consult the department chairman for approved courses.

PLANT SCIENCE

Students interested in majoring in the broad area of Plant Science rather than one of the four departmental options receive an adequate foundation in both the basic and applied plant sciences. Electives should be selected with the advice and approval of the Chairman of the Plant Science curriculum.

Plant Science Requirements — 49 Credits

	Credits
Approved electives in PLS, AY, FC, OH, VC	20
Other approved electives	29

POULTRY SCIENCE

(See Animal Sciences)

SOIL SCIENCE

The Department of Soil Science offers three curricula (Soil Science, Soil Technology, and Soil Conservation and Land-Use Planning) each of which is designed to meet the specific needs of the individual. Students should consult the chairman of the department or the departmental counselor for approval of electives in their field of specialization.

SOIL SCIENCE

This program of study emphasizes the basic sciences. Students following this curriculum can qualify for graduate study and research in Soil Fertility, Soil Chemistry, Soil Microbiolgy, Soil Physics, or Soil Genesis and Classification by a careful selection of elective courses.

Core Requirements in College of Agriculture — 8 Credits
Departmental Requirements — 22 Credits

	Credits
SLS 330 General Soils	5
SLS 421 Soil Chemistry	4
SLS 422 Soil Microbiology	4
SLS 423 Soil Genesis & Classification	4
SLS 424 Soil Physics	4
Electives in Soil Science	1

*Other Requirements and Electives — 67 Credits**

	Credits
GY 201 Physical Geology	4
MCS 300 Microbiology	3
MCS 301 Microbiology Laboratory	2
BTY 310 Elementary Plant Physiology	4
BTY 311 Elementary Plant Physiology Laboratory	2
MS 301 Analytic Geometry and Calculus I	5
PS 211-221 General Physics I	5
PS 212-222 General Physics II	5
PS 213-223 General Physics III	5
CY 204 General Chemistry and Qualitative Analysis	4
CY 331 Quantitative Analysis	5
Free and Approved Electives	22

*Suggested electives
EY 301, EY 311, EY 303, PT 301, PT 311, CY 362-363, CY 341-342, or CY 451-452-453, GY 407, GY 408, GY 418, MS 302, GPY 300, SLS 426, SLS 428, SLS 430.

SOIL TECHNOLOGY

This program of study is designed primarily for the student who desires employment in one of the many applied fields of agriculture after obtaining the bachelor's degree. By a careful selection of electives one may prepare for a career according to his or her specific interests.

Core Requirements in College of Agriculture — 8 Credits
Departmental Requirements — 26 Credits

	Credits
SLS 330 General Soils	5
SLS 421 Soil Chemistry	4
SLS 422 Soil Microbiology	4
SLS 426 Fertilizers & Soil Fertility	4
Electives in Soil Science	9

Other Requirements and Electives — 63 Credits

	Credits
MCA 301 Agricultural Water Management	4
AY 432 Forage and Pasture Science	5
FC 341 Citrus Growing	4
MCS 300 Microbiology	3
MCS 301 Microbiology Laboratory	2
EY 301 Principles of Entomology	3
EY 311 Principles of Entomology Laboratory	2
PT 301-311 Lectures and Laboratory in Basic Plant Pathology	5
Free and Approved Electives	34

*Suggested Electives:
AL 309, CY 331, EH 302, PLS 201, GPY 300, GY 201, GY 202, SLS 423, SLS 424, SLS 428, FRE 310, PLS 301, PLS 311.

SOIL CONSERVATION AND LAND-USE PLANNING

This curriculum is recommended for students desiring a fundamental knowledge of soils requisite to their conservation and the formulation of sound land-use decisions for a wide variety of purposes to meet the needs of our rapidly expanding population. These include agricultural, industrial, urban, and recreational developments. Employment opportunities exist with federal, state, and local governmental as well as private organizations involved in building and highway construction, land appraisal and assessment, land zoning, and other activities related to ecology and the environment, sanitation, and land-use capability.

Core Requirements in College of Agriculture — 8 Credits
Departmental Requirements — 24 Credits

	Credits
SLS 330 General	5
SLS 333 Agricultural and Environmental Quality	4
SLS 421 Soil Chemistry	4
SLS 423 Soil Genesis and Classification	4
SLS 428 Soil Survey	3
SLS 437 Soils of Florida	3
Electives in Soil Science	1

Other Requirements and Electives — 64 Credits

	Credits
MCA 301 Agricultural Water Management	4
GY 201 Physical Geology	4

GPY 300 Physical Geography..... 5
BTY 301 Introduction to Ecology..... 5
ENV 301 Environmental Quality and Man..... 4
OH 364 Relationships of Ornamental Plants to Urban Environment..... 3
RE 470 Urban Growth, Land Use, and Regional Planning..... 5
Free and Approved Electives*..... 34

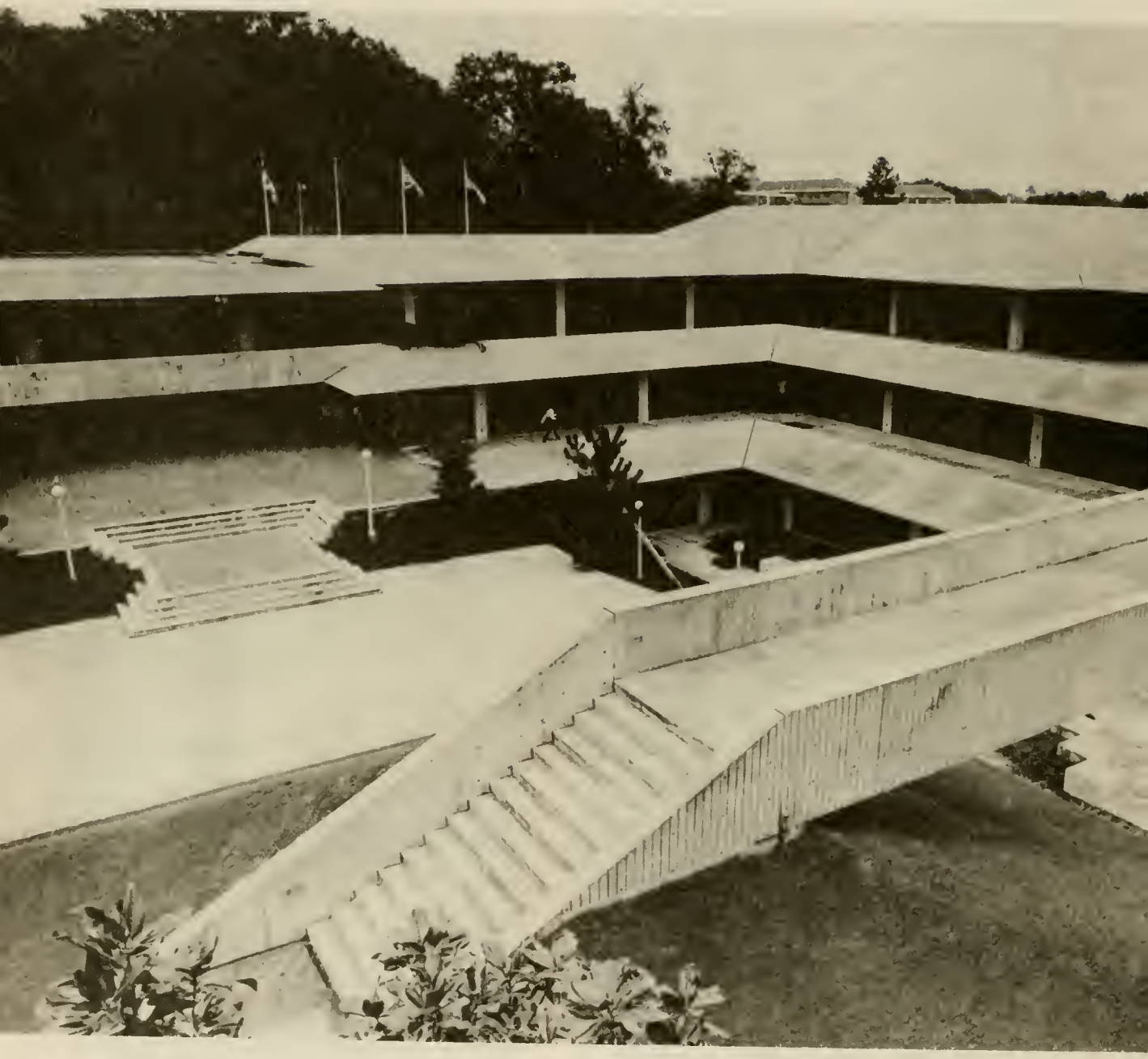
*Suggested Electives:
AG 200, AL 309, APY 200, APY 435, ATS 150, CIS 300, BTY 375, FRE 305, FRE 310, FRE 330, FS 201, FRC 450, GPY 331, GPY 351, GY 400, PCL 323, RE 350, SLS 312, SLS 422, SLS 424, SLS 426, SY 350, SY 355, STA 320.

STATISTICS

A major in Statistics is offered through the College of Agriculture. Students should consult with the Undergraduate Coordinator for curriculum. [See College of Arts and Sciences for requirements]

VEGETABLE CROPS

(See Plant Sciences)



College of Architecture

ARCHITECTURE
BUILDING CONSTRUCTION
INTERIOR DESIGN
LANDSCAPE ARCHITECTURE

College of Architecture

GENERAL STATEMENT

The College of Architecture provides instruction for students who seek professional careers in the Building Arts. The College has developed from the School of Architecture established in 1925. Its organization now includes—the Department of Architecture and School of Building Construction; Programs in Interior Design, Landscape Architecture, and Urban and Regional Planning (Graduate); the Bureau of Research.

PROGRAMS

Professional Instruction — The College offers professional curricula leading to appropriate undergraduate degrees in:

Architecture (Preprofessional)
Building Construction
Interior Design
Landscape Architecture

The College also offers at the Graduate level professional programs in Architecture, Building Construction and Urban and Regional Planning. Each undergraduate and graduate program stresses thorough mastery of the principles underlying its field and the development of professional skill in their creative application to practice.

Bureau of Research: The Bureau fosters and encourages research in all areas of the building arts. It also provides an opportunity for graduate students and faculty members to engage in research and cooperate effectively in research with other University departments and with other institutions.

LIBRARY FACILITIES

The University Libraries and the Architecture and Fine Arts Library together provide an important working collection of publications and audio-visual materials for undergraduate and graduate studies. These resources include books, government documents, leading American and foreign periodicals, color prints, and slides.

COUNSELING

Students planning to major in any program of study in the College of Architecture should see the proper Upper Division departmental chairman, program director or adviser as soon as possible in their college program.

The counseling program of the College is designed to make available to all students the services of faculty members highly qualified in their respective professions who can assist in the selection of a field of study, give understanding and sympathetic counsel regarding the student's personal or academic problems, and advise on the selection of employment after graduation.

STUDENT AID

Students interested in part-time employment, assistantships, fellowships, loans, prizes, and awards are referred to individual departments and information provided by the Student Financial Aid Office, University of Florida, Gainesville, Florida.

PRACTICAL EXPERIENCE

Students are urged to obtain before graduation some experience in the employ of practicing professionals in their particular field, or in some allied work which will give an insight into the problems of professional practice. Such employment provides an introduction to the methods of actual practice, and enables the student to derive increased benefit from advanced work in school. Students should seek the counsel of their faculty adviser as to the type of practical experience best suited to their individual needs.

FIELD TRIPS

Each year a number of field trips are arranged to give students an opportunity to broaden and extend their educational experience through study of construction projects of unusual interest or of outstanding works of architecture. Students frequently combine such studies with attendance at state and national meetings of the professional organizations in their respective fields.

STUDENT WORK

The College reserves the right to retain student work for the purpose of record, exhibition, or instruction.

STUDENT ORGANIZATIONS

Student organizations take an active part in the educational program of the College. Included in these organizations are the student chapter of the American Institute of Constructors, the Gargoyle Society, Sigma Lambda Chi, the Students Contractors and Builders Association, the student chapter of the American Institute of Architects, and Tau Sigma Delta. The College encourages and assists students in promoting close relations with professional groups and societies.

GRADUATE DEGREES

The college offers the degrees of Master of Arts in Architecture, Master of Arts in Urban and Regional Planning, Master of Science in Building Construction, Master of Building Construction. To meet the needs and goals of each student, graduate programs are prepared in consultation with a designated member of the Graduate Faculty of the College of Architecture. For further information, see the *Graduate School catalog.*

Architecture: Those students with a Bachelor of Design (Architecture) degree who wish to obtain a professional degree in architecture must pursue the two year graduate program which is a prerequisite for seeking licensing for architectural practice. It permits further study in specialized areas of architectural design, architectural history, architectural structures, environmental technologies or architectural preservation.

Under special circumstances the graduate faculty of the department may elect to admit students who have a Bachelor of Architecture degree from a five-year program, for a one-year graduate program leading to the Master of Arts in Architecture.

Building Construction: A program focusing on managing construction. Areas of intensive study and research include construction management, advanced construction techniques, industrialized building and systems, construction materials and structured concepts. Holders of a four-year undergraduate degree in Building Construction or its equivalent in related fields such as Architecture and Engineering, may normally complete the program in one academic year.

The construction industry needs managers with a knowledge of business. To meet this need there is a special program for students with a four-year degree in Business Administration leading to a Master of Building Construction Degree in five or six quarters, depending on the student's background.

Urban and Regional Planning: The Department of Urban and Regional Planning offers a 72 credit hour graduate program leading to a Master of Arts in Urban and Regional Planning. Planners strive for integrated social, economic, and physical development of communities, urban or rural regions, and states. The planning program stresses analysis of issues and problems in formalization of policies, plans, and implementing programs, for both public and private organizations. Policies and plans are used to direct or influence change—change which leads to development of resources, and development or redevelopment of communities. This program is particularly important as Florida and the South look to days of coping with rapid development and growth.

The southern region has spoken through regional growth policies and individual state legislation expressing the need for growth planning and management as an alternative to no-growth strategems. This program offers a unique location in Florida to provide a base for research and student in this dynamic southern region.

Students may begin this graduate program any quarter, including summer. Applicants are encouraged from such undergraduate programs as architecture, landscape architecture, engineering, social sciences, and other fields. Minorities are encouraged to apply, for as planners they will have a vital role in understanding and solving the urban problems of city dwellers. Those finishing the program will be prepared to enter the planning profession and take the membership examination of the American Institute of Planners.

For more information, see the *Graduate School* catalog, or contact the program office in 208 Flint Hall, (904) 392-2445.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Architecture encourage applications from qualified students from all cultural, racial, religious and ethnic groups. Listed below are the specific requirements for admission to this College. It should be understood, however, that minimum requirements are given and that admission to the College is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. Limitations in staff, faculty and facilities make it necessary that the College establish quotas for the admission of students. Therefore, eligible applicants will be considered for admission to the College of Architecture within established quotas. A student's total record, including educational objective, pattern or courses previously completed, quality of previous academic record, and test data will be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential, on the basis of their total record, indicates the greatest likelihood of success in the program requested.

University College Students: To be eligible for admission to the College of Architecture, a University College student must have: 1) earned at least 92-99 quarter hours (varies with curricula) with the minimum average of "C" or higher in the courses required by the appropriate curriculum specified for the Freshman and Sophomore years; and 2) passed all required preprofessional courses within those two years with a minimum grade average of "C". Admission to programs restricting enrollment because of space limitations may require that the student earn higher than the 2.0 (C) average minimum. Quotas will limit the admission of students based upon the overall academic record, grade point average and apparent potential for successful completion of the program.

Minimum grades required in certain courses and other special requirements for admission to various curricula in the College of Architecture should be obtained from the Dean's Office or from the departmental adviser.

Transfer Students: To be eligible for admission to the College of Architecture a transfer student must satisfy the minimum requirements for admission as specified in the ADMISSIONS section of this catalog. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Architecture:

A. Transfers from four-year colleges.

Students attending four-year colleges should take courses similar to the appropriate program as outlined in this catalog.

B. Community College Transfers to Departments within the College.

1. *Curricula in Architecture:* Transfer students from community colleges not having approved pre-architecture programs should expect to take up to three quarters of work at the University of Florida to complete the preprofessional courses not available at the community college. Mathematics, including calculus, and one year of physics with laboratory, should be taken at the community college if available. In addition, courses in free-hand drawing, and perspective drawing with instruments are recommended.

2. *Curriculum in Interior Design:* Same as 1. above except calculus and physics are not required. If available, economics or accounting, free-hand drawing and trigonometry should be taken at the community college.

3. *Curriculum in Landscape Architecture:* Transfer students should expect to take a minimum of three quarters to complete preprofessional courses not available at the community college. Mathematics including calculus, introductory botany and general botany should be taken at the community college. This physical science requirement may be fulfilled by one term of physical science and one term of general physics (see program as listed in the University College section of the catalog).

4. *Curriculum in Building Construction:* Transfer students, in addition to obtaining an Associate of Arts degree and completing general education requirements, should satisfactorily complete the following at the junior or community college: mathematics, including calculus through basic integration; one year of physics with laboratory; one course each in accounting, business communications or technical report writing, and drawing with instruments such as architectural or engineering drawing.

The three remaining Freshman and Sophomore preprofessional courses, one each in physical geology, construction materials, and statics should be taken at the junior or community college if available. If not available they must be satisfactorily completed in the first term of registration at the University of Florida before the student can proceed to the Junior level courses.

Each Florida junior and community college has been furnished a copy of a suggested pre-Building Construction program listing those local courses which satisfy Freshman and Sophomore prerequisite requirements for the University of Florida program. Any student may write the Department of Building Construction for a copy.

Provisional Admission: The professional programs of the College demand that preprofessional course-work begin with the Freshman year. Realizing that most of the schools from which transfer students come do not offer all such courses, the College provides an opportunity for admissable students to remove these deficiencies. Qualified transfer students, indicating potential, but not having completed all preprofessional prerequisites, may be admitted provisionally *based upon space available.* Due to limitations in space and faculty all qualified students may not be admissable. Students admitted provisionally will register for the courses necessary to eliminate deficiencies in the shortest time possible. Until these deficiencies are removed students will be required to maintain a "C" (2.00) average to be eligible for continued registration and may

be prevented from registering for courses numbered 300 or above.

MAXIMUM AND MINIMUM LOADS

Fifteen to eighteen quarter hours in any regular quarter shall be considered a *normal* load. A student may be permitted to register for more than eighteen quarter hours when, in the opinion of his adviser, the quality of his record justifies this. The *minimum load* for a full-time student in the University during a regular quarter is 12 hours. At the time of registration a student, with the approval of the Dean, may register for less than twelve quarter hours. If a student wishes to drop courses during the quarter, he must have the approval of the College Committee on Student Petitions.

NORMAL ACADEMIC PROGRESS

The student will have maintained normal academic progress when he earns a minimum grade point of 2.0 (C) average for all work attempted in the Upper Division. In addition, he is required to take courses in a sequence as specified by his departmental chairman or adviser. The student may be excluded from a program of study in the College of Architecture and Fine Arts if he fails or refuses to maintain normal academic progress.

DEAN'S HONOR LIST

Undergraduate students who demonstrate excellence in their academic work by completing a full course load (minimum of 12 quarter hours credit) in a quarter term and achieving a grade point average of 3.5 or better will earn a position on the Dean's Honor List. Students whose term averages are below 3.5 due to grades of I or X are not eligible.

GRADUATION REQUIREMENTS

To be eligible for graduation, the student must earn a minimum grade point average of 2.0 (C) for all work attempted in the appropriate curriculum while classified in the College. Courses taken while enrolled in another Upper Division College may not apply toward the calculation of the College of Architecture average. Specific grade requirements for the various curricula may be obtained from the department or Dean's Office.

Students planning to enter the Graduate School should maintain a 3.0 (B) average in Upper Division work.

GRADUATION WITH HONORS AND HIGH HONORS

The faculty will consider recommending students for graduation with HONORS or HIGH HONORS on the following criteria: (a) grade point average, (b) distribution and quality of subject matter studied, (c) evaluation of the students by the faculty, and (d) other pertinent qualities of the student and his work.

The student will be considered for HONORS or HIGH HONORS upon his earning a minimum academic average established by his department or program. The average will be calculated on all work attempted while the student is classified in the Upper Division. Transfer credits will be excluded from the average; HONORS or HIGH HONORS may be awarded upon a minimum of 72 quarter hour credits taken at the University of Florida. Students should check with their department or program director for minimum average required.

I. CURRICULUM IN ARCHITECTURE

Leading to the Degree of Bachelor of Design (Architecture)
Butt, A.F., *Chairman;* Morse, R. H., *Adviser*

This curriculum is for students who desire to obtain a preprofessional education in architecture. It is the undergraduate preparation for the two-year graduate program for those interested in professional practice, teaching, and similar careers of creative and intellectual activity. For other careers in architecture the course of study leading to the Bachelor of Design is a terminal program.

Students participate in a 2-year program of general education in architecture. Also in consultation with departmental counselors the student selects electives which will strengthen and reinforce individual interests and objectives. Elective study permits the student to begin a background for the 2-year professional graduate program.

In the graduate program optional courses of study are architectural design, architectural structures, architectural environmental technologies, architectural history and architectural preservation. For details of the graduate professional program see the *Graduate catalog.*

The undergraduate and graduate programs form a curriculum of study accredited by the National Architectural Accrediting Board.

The program of study is included below to show a typical sequence in which courses are taken. In the first and second years, courses are offered frequently in quarters in addition to those shown. First-quarter courses for the third year are offered only in the fall or spring quarters, with subsequent courses offered in the appropriate quarters to maintain the desired sequences. Admission into the third year is determined by the Department Selection Committee.

The Department reserves the right to retain student work for the purposes of record, exhibition, or instruction.

FIRST YEAR	*Credits*
MS 201 Analytic Geometry/Calculus	5
CPS Physical Sciences	4
AE 112 Basic Drawing	4
AE 121 Building Arts	3
	16
BES Behavioral Studies	4
PS 201 Applied Physics I	5
EH English	3
AE 113 Architectural Drawing	4
	16
PS 202 Applied Physics II	5
EH English	3
AE 115 Architectural Communications	4
HUM Humanities	4
PL Physical Education	1
	17
SECOND YEAR	*Credits*
HUM Humanities	4
EH English	3
SSC Social Sciences	3
AE 235 Architectural Design I	4
PL Physical Education	1
	15
CBS Biological Sciences	3
HUM Humanities	4
SSC Social Sciences	3
AE 236 Architectural Desgn II	4
PL Physical Education	1
	15
CBS Biological Sciences	3

AE 255 Architectural Structures I..... 4
SSC Social Sciences..... 3
BES Behavioral Studies..... 3
AE 245 Materials & Methods of Construction I..... 4

17

THIRD YEAR *Credits*
AE 333 Architectural Design 3..... 4
AE 355 Architectural Structures 2..... 4
AE 364 Environmental Technology 1..... 4
Elective..... 4

16

AE 385 Site Analysis..... 4
AE 366 Environmental Technology 2..... 4
AE 375 Survey of Architecture History 1..... 4
Elective..... 4

16

AE 335 Architectural Design 3..... 4
AE 356 Architectural Structures 3..... 4
AE 346 Mat. & Methods of Construction 2..... 4
Elective..... 4

16

FOURTH YEAR *Credits*
AE 435 Architectural Design 4..... 4
AE 467 Environmental Technology 3..... 4
AE 475 Survey of Architectural History 2..... 4
Elective..... 4

16

AE 442 Applied Design Connections..... 4
AE 445 Mat. and Methods of Construction 3..... 4
AE 456 Architectural Structures 4..... 4
Elective..... 4

16

AE 436 Architectural Design 6..... 4
AE 465 Professional Administration, Specs. & Estimating..... 4
AE 476 Survey of Architectural History 3..... 4
Elective..... 4

16

II. CURRICULUM IN INTERIOR DESIGN

Leading to the degree of Bachelor of Design. Butt, A.F., *Chairman;* MacFarlane, J., *Program Director, Adviser.*

This curriculum is for students who desire to become professional interior designers in the domestic, commercial, and institutional fields, or who desire to engage in the design, and manufacture of furniture and accessories.

For Freshman and Sophomore programs of study consult section of catalog entitled Lower Division.

The Department reserves the right to retain student work for the purposes of record, exhibition, or instruction.

Students must begin the third and fourth year program during the Fall Quarter only.

FIRST YEAR *Credits*
AE 121 The Building Arts..... 3
SSC Social Sciences..... 3
CPS Physical Sciences..... 4
EH English..... 3
PL Physical Education..... 1

14

AE 112 Basic Drawing..... 4
SSC Social Sciences..... 3
CPS Physical Sciences..... 3
EH English..... 3
BES Behavioral Studies..... 3
PL Physical Education..... 1

17

AE 113 Architectural Drawing..... 4
SSC Social Sciences..... 3
CPS Physical Sciences..... 3
EH English..... 3
BES Behavioral Studies..... 3
PE Physical Education..... 1

17

SECOND YEAR *Credits*
HUM Humanities..... 4
MS 102 Algebra and Trigonometry..... 5
AE 115 Architectural Communications..... 4
ELECT Elective..... 4

17

HUM Humanities..... 4
CBS Biological Sciences..... 3
ATG 201 Accounting..... 5
AE 235 Architectural Design 1..... 5

16

HUM Humanities..... 4
CBS Biological Sciences..... 3
AE 236 Architectural Design..... 4
ELECT Elective..... 4

15

THIRD YEAR *Credits*
IR 331 Interior Design 1..... 5
IR 341 Interior Furnishings 1..... 4
IR 315 Interior Architectural Drawing..... 4
AE 245 Mat. & Methods of Construction 1..... 4

17

IR 332 Interior Design 2..... 5
IR 342 Interior Furnishings 2..... 4
IR 372 History 1..... 4
IR 346 Mat. & Methods of Construction 2..... 4

17

IR 333 Interior Design 3..... 5
IR 343 Interior Furnishings 3..... 4
IR 373 History 2..... 4
IR 375 Textiles..... 4

17

FOURTH YEAR *Credits*
IR 431 Advanced Interior Design 1..... 8
AE 442 Applied Design Connections..... 4
ELECT Elective..... 4

16

IR 432 Advanced Interior Design 2..... 8
IR 443 Practice of Interior Design..... 4
ELECT Elective..... 4

16

IR 433 Advanced Interior Design 3..... 8
BA 401 Business Law..... 5
ELECT Elective..... 3

16

III. CURRICULUM IN LANDSCAPE ARCHITECTURE

Leading to the Degree of Bachelor of Landscape Architecture. Butt, A.F., Chairman; Smith, H.H., Program Director and Advisor.

COLLEGE OF ARCHITECTURE

This four-year curriculum is designed for those students who seek an undergraduate professional education in landscape architecture. Leading to the degree, Bachelor of Landscape Architecture, the program is accredited by the American Society of Landscape Architects, and is an essential first step toward legal identity in those states which regulate the practice of landscape architects. Since Florida is one of these states, entering students are embarked on a professional career where discipline and ethical commitment are construed as being in the best interests of public health, safety and welfare.

The program is based on the core knowledge of landscape architecture which is enhanced through subsequent professional practice. Students become familiar with the art of design, planning or management, and the arrangement of natural and man-made elements on the land through application of cultural and scientific knowledge. There is concern for resource conservation and stewardship to the end that the resultant environment serves useful and enjoyable purposes. Graduates are largely employed by professional offices and municipal, state or federal recreation, landscape architectural or planning agencies. Many graduates also continue in graduate programs at other institutions throughout the country.

Since landscape architecture is a quota program, please see Requirements for Admission, College of Architecture.

FRESHMAN	*Credits*
AE 121 Building Arts	3
AE 112 Basic Drawing	4
EH English	3
MS 201 Analytical Geom/Calc	5
PL Physical Education	1
	16
AE 113 Arch. Drawing	4
EH English	3
SY 201 Princ. Sociology	4
BTY 181 Intro. Botany	5
PL Physical Education	1
	17
AE 115 Arch. Communications	4
EH English	3
CPS 223 Physical Sciences	4
*BTY 203 General Botany	5
PL Physical Education	1
	17

SOPHOMORE	*Credits*
LAE 271 Hist./Theory Land. Arch I	4
AE 235 Arch. Design I	4
HUM Humanities	4
**CPS Physical Sciences	3-4
	15-16
LAE 272 Hist/Theory Land. Arch. 2	4
AE 236 Arch. Design 2	4
HUM Humanities	4
SSC Social Sciences	3
	15
AE 245 Mat/Methods Const. 1	4
HUM Humanities	4
**CPS Physical Sciences	3-4
SSC Social Sciences	3
CIS 302 Intro. Computer Program	2
	16-17

*BTY 203 or approved equivalent
**PS 201 may substitute for CPS 225 and 235 (both must be taken)

THIRD YEAR	*Credits*
LAE 331 Landscape Architectural Design 1	5
LAE 341 Landscape Construction 1	4
AE 385 Site Analysis	4
OH 331 Fund. Orn. Plant Class	4
	17
LAE 332 Landscape Architectural Design 2	5
LAE 342 Landscape Construction 2	4
OH 332 Indent. Basic Orn. Plants	4
Elective	4
	17
LAE 333 Landscape Architectural Design 3	5
LAE 353 Planting Design	5
LAE 363 Grounds Maintenance (or elective)	4
Elective	4
	18

FOURTH YEAR	*Credits*
LAE 431 Advanced Landscape Architectural Design 1	8
LAE 481 Recreation Planning	4
Elective	4
	16
LAE 432 Advanced Landscape Architectural Design 2	8
LAE 442 Professional Administration	5
Elective	4
	17
LAE 433 Advanced Landscape Architectural Design 3	8
LAE 421 Senior Seminar	3
Elective	4
	15
	48
	100

*A field trip is required of all Junior and/or Senior level students. 24 credit hours of upper division elective hours are required. Students may elect the minor Certificate program in Environmental Studies.

IV. CURRICULUM IN BUILDING CONSTRUCTION

Leading to the degree of Bachelor of Building Construction, Halperin, D.A., *Chairman;* Johnson, L.A., Tracey, V.G. and Grim, D., Jr., *Advisers.*

This four-year program is for students who are interested in preparing for professional careers in construction science, management, techniques, operations, products research, and related areas in the construction industry rather than in architectural and engineering design. Graduate programs leading to the degrees of Master of Science in Building Construction and Master of Building Construction are offered, see Graduate catalog.

The Freshman and Sophomore program of study (see section of catalog entitled Lower Division) is designed to provide easy transfer for junior and community college Associate of Arts graduates. Equivalent transfer courses in these first two years are available at many junior and community colleges. Thus, with proper course planning many transfer students with A.A. degrees may complete the four-year degree program in six or seven remaining quarters at the University. Prospective junior and community college transfer students should consult their advisers or write to the Department of Building Construction for a pre-building construction program of local study.

The construction industry and its related fields are in dire need of young men and women educated in the arts of communications and interpersonal relations and in areas of construction science, management, techniques, and operations. This curriculum provides education in all these areas.

Students are especially attracted to construction because of the creative excitement, the challenging and rewarding opportunities offered and the sense of tangible accomplishments. Opportunities for advancement and increasing responsibilities are unlimited in all areas of the industry, a few of which include land development; home building; public building; industrialized building and systems; commercial, industrial, marine, and heavy construction; underwater and space age facilities; materials and equipment distribution sales, and installations; construction product research, development, sales, and applications. Typical company titles of jobs accepted by graduating Seniors are: assistant project manager, field engineer, project planner, cost engineer, project scheduler, and cost analyst.

The department includes a chapter of Sigma Lambda Chi, National Honorary Construction Fraternity, and the Student Contractors and Builders Association. This association is an affiliated student chapter of the National Association of Home Builders and also of the Associated General Contractors of America.

For the Freshman and Sophomore program of study, consult the section of the catalog entitled Lower Division.

JUNIOR YEAR

1st Quarter	*Credits*
BCN 301 Construction Drawing	2
ESM 342 Construction Mechanics 2	5
BCN 321 Construction Techniques 1	5
BCN 324 Techniques Laboratory	3
2nd Quarter	
BCN 312 Structures 1	4
BCN 322 Construction Techniques 2	5
BA 402 Business Law	5
3rd Quarter	
CIS 302 Introduction to Computer Programming	2
BCN 313 Structures 2	4
BCN 323 Construction Techniques 3	5
BCN 331 Quantity Surveying	4
Total	44

SENIOR YEAR

1st Quarter	*Credits*
BCN 414 Structures 3	4
BCN 432 Construction Estimating	4
BCN 441 Environmental Technology 1	4
BCN 451 Construction Management 1	4
2nd Quarter	
BCN 402 History of Construction	4
BCN 443 Environmental Technology 2	4
BCN 452 Construction Management 2	4
BCN 454 Construction Planning & Control	4
3rd Quarter	
BCN 403 Site Development	4
BCN 445 Environmental Technology 3	4
BCN 453 Construction Management 3	4
*Elective	4
Total	48

*There are two options on Electives:

Option 1: One course, 4 credits or more, in Junior year and one course, 4 credits or more, in Senior year, both to be taken under the conditions of the satisfactory or unsatisfactory (S-U) grade option.

OR

Option 2: One course, 4 credits or more to be taken for a grade in the Junior or Senior year.

Electives must have prior approval of the Department Adviser.

The College of Arts and Sciences

AMERICAN STUDIES
ANTHROPOLOGY
ART
ARTS AND SCIENCES — GENERAL
ASIAN STUDIES
ASTRONOMY
ATMOSPHERIC SCIENCES
BIOCHEMISTRY
BIOLOGICAL SCIENCES
BOTANY
CHEMISTRY
CHINESE
CLASSICS
COMPUTER AND INFORMATION SCIENCES
CRIMINAL JUSTICE
ECONOMICS
ENGLISH
GEOGRAPHY
GEOLOGY
GERMANIC AND SLAVIC LANGUAGES
HEBREW
HISTORY
INDIVIDUAL INTERDISCIPLINARY STUDIES
JAPANESE
LATIN AMERICAN STUDIES
LINGUISTICS
MATHEMATICS
MICROBIOLOGY
MUSIC
PHILOSOPHY
PHYSICS
POLITICAL SCIENCE
PSYCHOLOGY
RELIGION
ROMANCE LANGUAGES
SOCIOLOGY
SPEECH
STATISTICS
SWAHILI
THEATRE
ZOOLOGY

The College of Arts and Sciences

GENERAL STATEMENT

Culturally and historically the programs of the College of Arts and Sciences represent the core of all higher education. The humanities, the social sciences, the natural and biological sciences — all are studied in the College and all contribute to the richness of its program.

The major aim of the College is to impart the ideas, concepts, motivations, and skills of a liberal education to its students to enable them to assume leadership positions in society. Intellectual inquiry, the intelligent evaluation of ideas, an appreciation of the dominant thought patterns of the world are the tools the College insists that its graduates possess. Upon these fundamentals they can build personally rewarding lives and careers. They will also be prepared to pursue a field to its frontier through further study in the graduate and professional colleges.

The College grants the traditional Bachelor of Arts and Bachelor of Science degrees.

SUBJECT-MATTER FIELDS

The subject-matter fields regularly offered to students in the College of Arts and Sciences and the extent of these offerings are indicated in the table below:

Subject	Major	Masters	Ph.D	Electives
American Studies	X	—	—	X
Anthropology	X	X	X	X
Art	X			X
(Graduate work offered through College of Fine Arts.)				
Asian Studies	X	—	—	X
Astronomy	—	X	X	X
Atmospheric Sciences	—	—	—	X
Biochemistry	—	X	X	X
Biology**	X	—	—	X
Botany	X	X	X	X
(Degrees also offered through College of Agriculture.)				
Chemistry	X	X	X	X
Chinese	—	—	—	X
Classics	X	—	—	X
Computer and Information Sciences	X	—	—	X
Criminal Justice	X	—	—	X
Economics	X			X
(Graduate work offered through College of Business Administration.)				
English	X	X	X	X
French	X	X	X	X
Geography	X	X	X	X
Geology	X	X	—	X
German	X	X	—	X
Greek	—	—	—	X
Hebrew	—	—	—	X
History	X	X	X	X
Individual/Interdisciplinary Studies	X	—	—	—
Italian	—	—	—	X
Journalism	—	—	—	X
(Major and Graduate work offered through College of Journalism and Communications.)				
Latin	—	X	—	X
Latin American Studies	—	X	—	X
Linguistics	—	X	X	X
Mathematics	X	X	X	X
Microbiology and Cell Science	X	X	X	X
(Degrees also offered through College of Agriculture.)				
Music*	X	—	—	X
Philosophy	X	X	X	X
Physics	X	X	X	X
Polish	—	—	—	X
Political Science	X	X	X	X
Portuguese	—	—	—	X
Psychology	X	X	X	X
Religion	X	—	—	X
Russian	X	—	—	X
Sociology	X	X	X	X
Spanish	X	X	X	X
Speech	X	X	X	X
Statistics	X	X	X	X
Swahili	—	—	—	X
Theatre	X	—	—	X
(Graduate work offered through College of Fine Arts and Department of Speech.)				
Zoology	X	X	X	X

*Except for music majors, a maximum of 9 hours of credit in ensemble music may be included in the minimum of 186 hours required for the degree.

**Interdepartmental Major in Biology. Available for those working toward the Teacher Certification only. For Teacher Certification program see College of Education section of the catalog.

UNIVERSITY COLLEGE PROGRAM

University College students who plan to enter the College of Arts and Sciences should consult the basic distribution requirement section below (Section A under Requirements for Degrees.) After a student has completed 96 hours in University College, only those courses and equivalents listed are accepted as satisfying the general education requirements for graduation from the College of Arts and Sciences. University College may have different or additional requirements to obtain an Associate of Arts degree.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Arts and Sciences encourage applications of qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this college. It should be understood however that minimum requirements are given and that admission to this college is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objective, pattern of courses previously completed, quality of previous academic record, and test data will all be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

University College Students: Admission to the College of Arts and Sciences is normally approved if the student has (1) earned at least 96 quarter hours of acceptable college credit with an overall average of "C" or higher on all college level work attempted. As a rule the student will have completed all lower division courses as indicated in the program for the Freshman and Sophomore years in the University College section of this catalog, and will have passed all required preprofessional courses within the lower division curriculum with a minimum grade of "C" in each course.

However, the College welcomes applications of all students who have not yet completed this portion of their academic program but who have an overall average of "B" or higher after one or more quarters in University College, and who have clearly defined academic objectives. Students entering under early admission may satisfy the basic distribution coursework by taking courses indicated below

in Section A, Basic Distribution Requirements, under "Requirements for Degree", or by taking courses in University College. In the latter case, the student must (a) take such courses before completing 96 hours and (b) consult an advisor in the College of Arts and Sciences office.

Florida Scholars Program: Each year one hundred gifted and unusual students will be admitted after eleventh grade to a special program offered by University College and the College of Arts and Sciences. See the ADMISSIONS section of this catalog.

Transfer Students: To be eligible for admission to the College of Arts and Sciences, a transfer student must satisfy the minimum requirements for admission to an Upper Division College that are set forth in the ADMISSIONS Section of this catalog.

A. Students attending four year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses as outlined in the Basic Distribution Requirements (see below Section A, under Requirements for Degree).

B. Junior and Community College transfer students should:

1. Complete a university transfer program at the lower division College.

2. Indicate an intended major field of concentration, using the exact terminology as on the list of majors at the beginning of the Arts and Sciences section of this catalog.

3. If pre-medical, pre-optometry, pre-dental, or preveterinary, or students who plan to major in mathematics, biological or physical sciences: be certain to substitute subject-matter courses in mathematics, botany, zoology, chemistry, or physics for survey courses in those areas. See Medicine, Dentistry and Optometry programs in the University College section of this catalog.

4. Attempt to satisfy the foreign language requirement of the College prior to transfer. Fifteen quarter hours of a single foreign language with grades of "C" or better, including course work at the intermediate level, will meet this requirement. Less than 15 hours satisfies the requirement if two (2) courses in the same language are taken at the intermediate level. For further advisement see below, Section B of "Requirements for Degree".

5. Complete sequential courses prior to transfer, especially the foreign language sequence (see item 4 above). Some courses are cumulative and represent a direct continuation of work done in a previous course. It is difficult to guarantee complete articulation of such courses when they are offered in different institutions.

6. Choose general education courses to satisfy the basic distribution requirement (See Section A, under Requirements for Degrees), and choose a variety of elective courses as needed to complete 96 quarter hours of credit. (Vocational-technical courses will not count as transfer credit.)

7. Earn a grade of "C" or better in each course attempted. No course in which a grade of less than "C" has been earned may be used to satisfy any basic or major requirements in the College of Arts and Sciences.

8. Wait until after transfer to the University to take courses in professional education if the student expects to work toward certification to teach.

Special post-baccalaureate student (6AS): A student who has received a baccalaureate degree but who is not seeking admission to the Graduate School may, under certain conditions, be admitted as a special student (6AS). The applicant must meet deadlines printed in the University Calendar. The College will seek the approval of the appropriate academic officer: the chairperson of the department specified by the student, the graduate coordinator of the department, or the Director of Preprofessional Education. Such approval must be granted for admission. Students making application for admission under this category are advised that they *must declare a specific major field of study.*

Graduate student: The general section of this catalog dealing with admission describes certain minimum requirements for admission of graduate students to the University. Additional details for admission are given in the Graduate School catalog.

ADVISEMENT

Upon admission to the College of Arts and Sciences, the student should contact the office of Student Academic Affairs of the College for referral to a departmental academic adviser. The College policy is self advisement. The faculty member's role is *only to give advice. The student assumes the responsibility for fulfilling college and departmental degree requirements.* A computer printout of the student's academic record will be furnished for use during Advanced Registration each term. These printouts, available in the departmental office of the student's designated major, assist the student in following the College policy of self-advisement. Printouts are reliable only if the student has designated a major precisely according to the wording of the list of major fields at the start of the Arts and Sciences section of this catalog. (A computer program cannot be written for Interdisciplinary majors, or for students in American Studies, Asian Studies, Classics, or Criminal Justice. Such students should regularly consult their departmental advisers.) The student is responsible for informing the keypunch operator in the Arts and Sciences office of corrections to the printout.

Students are urged to review the information presented in the Arts and Sciences section of the catalog each quarter when planning their programs. Failure to read, understand, and follow the guidelines presented here could cause significant hardship and delays in their academic progress. Clarification of college requirements is available at the College of Arts and Sciences office: students should ask to see the Peer Advisors provided by the College of Arts and Sciences Student Council.

Preprofessional Counseling: Preprofessional students seeking advisement should contact the Office of Preprofessional Education. For a detailed description of core requirements and career options, see PREMEDICAL, PREDENTAL, PREOPTOMETRY, AND PRELAW PROGRAMS in the University College section of this catalog.

GENERAL REGULATIONS

Student Responsibility: Students must assume full responsibility for registering for the proper courses and loads and for fulfilling all degree requirements. Students are responsible for completing all courses for which they are registered at the end of the drop/add period.

Maximum, Minimum and Normal Loads: The normal course load in this College is 15 credit hours, and all students are expected to carry a normal load. Loads which are either lighter or heavier than normal must be justified and approved by the student's academic adviser. Loads in excess of the College maximum of 19 hours or below the University minimum of 12 hours for a full-time student require approval of the Dean as well as the student's adviser.

Adding/Dropping/Withdrawing: Courses may be added any time during the drop/add period if this does not increase one's registration to more than 19 hours. Courses may be dropped during the drop/ add period without penalty as long as this does not lower one's registration below 12 hours (See Maximum, Minimum and Normal Loads above). After the drop/add period, a course may be dropped up to the date established as the College deadline. All drops are subject to the following restrictions:

(1) No more than three (3) such drops, after the University's drop/add period, will be permitted in the student's upper division career.

(2) After the deadline students may petition to drop a course provided they can document sufficient reasons to drop, usually hardship or medical.

(3) The course load will not be reduced below 12 hours. (A petition to the Arts and Sciences Petition Committee must accompany such a request to drop a course which does reduce the load below 12 hours.)

(4) Final approval to drop a course after the University's drop/add period must be obtained from the Dean's Office. Students must attend all classes for which they are registered. Failure to attend a class will not be accepted by the College as constituting a drop; the only procedure for dropping a class is the proper processing of a drop card which the student must initiate. The student is then responsible for taking the approved drop card to the Registrar for recording. It is the student's further responsibility to make certain that the drop is recorded correctly. It is a recommended practice for students periodically to confirm the proper registration of their courses at the Registrar's Office.

(5) Students dropping their entire courseload must contact the Office of the Registrar as this constitutes withdrawal from the University, and must be handled by withdrawal procedures established by the Registrar and subject to the published catalog deadlines.

Seniors must file formal application for a degree in the Office of the Registrar early in the quarter in which they expect to receive the degree. The official calendar shows the latest date on which this can be done.

Additionally, Seniors who plan to graduate must have their academic file reviewed in the College of Arts and Sciences office one to two quarters prior to their graduation. In their final quarter seniors should have corrected all "I", "N", "X" and "H" grades to letter grades by *no later than the end of the fifth week.* Seniors are themselves responsible for seeing that all grade changes are properly submitted and recorded by the College of Arts and Sciences Office by the above deadline.

Registration in Graduate Courses: In accordance with the rules of the Graduate School, undergraduate students may not register in graduate courses (500 level and above) without permission of the College Dean. This permission is normally given only to students in their Senior year who are carrying not more than 17 hours and have an average of at least 2.8. Students must present written approval from both the instructor of the course and the graduate coordinator of the department offering the course.

Registration beyond normal period for completion of degree: Any student who has completed all of the academic requirements for the Baccalaureate degree but has not obtained the degree will be denied further registration in the College. A student who has completed more than 15 hours beyond the normal minimum requirement for his degree without receiving the degree, must obtain permission of the Dean for further registration.

Class Attendance: Although the general student academic regulations of the University do not require class attendance after the completion of the first 45 hours of freshman work, the University and this College do recognize the right of the individual professor to make attendance mandatory in his/her course and, where appropriate, and after due warning, to suspend students from those courses with failing grades for excessive absences.

Student Petitions: A student who feels that the College regulations work a particular hardship or injustice may petition for waiver of the regulation involved. Information on procedure in submitting such petitions is available in the Office of the Dean.

Other Student Regulations: The University issues a bulletin entitled *Student Guide* which contains much information of essential importance to any student. For example, the general regulations governing military training and student employment are covered. Each student in the College of Arts and Sciences should be familiar with this material. Copies of the bulletin may be obtained at the Office of Student Services.

Credit for Coursework Outside the College

General:

At the beginning of this section is a list of subject matter fields in which credit for a degree in Arts and Sciences is granted. The primary objective of this College is to provide its students with a liberal education and it is the conviction of the faculty that the fields listed are in general those which are conducive to a liberal education. However, a student may select for upper division elective credit up to 15 hours of work from other colleges within the University. *No credit will be given for coursework taken outside the College beyond the 15 hours limit.*

Special Cases:

1. The minimum total of 186 hours required for the bachelor's degree may include not more than 24 hours credit in education provided the student follows an approved program and becomes NCATE Certified. If a student is in a certification program, therefore, the only hours outside the college which could apply would be the 24 hours of education.

2. No more than 9 hours credit of ensemble music may be included in the minimum total of 186 hours. (This does not apply to Music majors).

3. In the first 96 hours of course work presented for admission to Arts and Sciences a student may receive credit for his degree for not more than 38 hours of work offered in other upper division colleges.

4. An approved interdisciplinary major may include more than 15 hours of course work in another College.

REQUIREMENTS FOR DEGREES

BACHELOR OF ARTS AND BACHELOR OF SCIENCE

The programs which lead to the degrees Bachelor of Arts or Bachelor of Science are alike in all basic requirements.

The degree Bachelor of Arts will be conferred upon those who fulfill the requirements for degrees with majors in one of the fields of American Studies, Anthropology, Art, Asian Studies, Classics, Criminal Justice, Economics, English, French, German, History, Music, Philosophy, Political Science, Religion, Russian, Sociology, Spanish, Speech, and Theatre.

The degree Bachelor of Science will be conferred upon those who fulfill the requirements for degrees with majors in one of the fields of Botany, Chemistry, Geology, Microbiology, Physics, and Zoology.

The degree of Bachelor of Arts or Science will be conferred upon those who fulfill the requirements for the degree with a major in Computer and Information Science, Geography, Mathematics, Psychology, Statistics, or an Individual Interdisciplinary program. A major in one of these subjects will lead to the Bachelor of Arts degree if the majority of subsidiary and elective credits in the student's entire undergraduate program are earned in the humanities and/or social sciences, and will lead to the Bachelor of Science degree if such subsidiary and elective credits are science credits. In no instance will the College confer two Bachelor of Arts degrees, or two Bachelor of Science degrees on the same student. The requirements for graduation with either of these degrees are as follows:

A minimum of 186 quarter hours credit (normally 96 in the lower division and 90 while registered in this College) with an overall average of "C" or better in all work transferred to or completed in the College and an overall average of "C" in all work attempted at the University of Florida. NOTE: Some credits approved by the Registrar as acceptable may not be applicable toward the minimum degree requirements of this College. For example, no credit earned through courses in the Career Development Program (CDP) or through the College Level Examination Program may be applied towards satisfaction of degree re-

quirements once a student has earned 96 quarter credits at any college.

The degree program must include (1) a basic distribution, (2) a departmental or interdisciplinary major (3) a foreign language proficiency (4) elective requirement and (5) residence requirement. Mere accumulation of credit hours will not be sufficient for graduation from this College.

A. Basic Distribution Requirement

Normally this work will be completed while earning the Associate of Arts certificate, before admission to the College of Arts and Sciences. For all students actually registering in the College, whose general education did not include at least the basic distribution credits listed below, alternate courses are specified which may be used by students classified 3AS or 4AS to make up deficiencies in the distribution requirement. For early admission students (less than 96 hours) the basic distribution coursework may also be satisfied by courses in University College, provided (a) that the student take such courses before completing 96 hours, and (b) that the student consult an adviser in the College of Arts and Sciences office. The student must earn a grade of "C" or better in each of the courses taken to fulfill the distribution requirements, and these courses may not be taken under the S-U option.

The requirement includes:

8 hours credit in social sciences

8 hours credit in English

8 hours credit in humanities

8 hours credit in physical sciences

8 hours credit in biological sciences

One course in mathematics — No credit towards an Arts and Sciences degree will be given for any course in mathematics which is largely a repetition of high school algebra.

A minimum of one laboratory course in either the physical or biological sciences must be included in the above distribution.

The following list is not a recommendation to students in other colleges nor is it intended to satisfy the requirements of any other college. To qualify for the Associate of Arts certificate, University College students should complete general education requirements as described in the University College section of this catalog.

The student is reminded that the alternate course offerings for University College and the College of Arts and Sciences may differ. Students should be aware that the biology course requirements in Arts and Sciences are not met by AG, CHE, ENV, FS, FRC, HRP, or SLS courses.

After a student has completed the first 96 hours in any college, and has transferred to Arts and Sciences, *only those courses listed below* will be accepted toward meeting the Arts and Sciences basic distribution requirement:

Social Sciences: Any course in AMS, AS 281, APY, CRJ, ES, GPY, HY, PCL, PSY, SSR, SY. Except: GPY 300, PSY 303, PSY 320, PSY 334, PSY 335, PSY 371, PSY 420, PSY 439, PSY 444, PSY 472, PSY 500, PSY 510, PSY 571, PSY 572; APY 302.

English: Any course in English except EH 201, and EH 241.

Humanities: Any course in AS, EH, RN, PPY; THE 220, CS, ART, MSC, FLE literature, culture and civilization, HUM 232, ASC 471, 472, 473, 474, except AS 281, EH 201, EH 302, EH 303, EH 403 and MSC ensemble courses.

Physical Sciences: Any course in CY, PS, GY, ATS, ATY and GPY 300. Not courses in CPS.

Biological Sciences: Any course in ZY, BTY, MCS; APY 302, CBS 211, CBS 221, CBS 231. Acceptable if taken at the University of Florida: PSY 303, PSY 334, PSY 335, PSY 371, PSY 500, PSY 571.

NOTE: To meet the requirement in Biological Science at least one course must be in a Biological Science Department. The other may be Anthropology 302 or one of the approved Psychology courses.

Mathematics: Any course in MS, except MS 101, MS 300; STA, except STA 301; or CMS, except CMS 151.

Laboratory requirement: Any course in a science department that has a regularly scheduled laboratory. Also GPY 300; CBS 264, PSY 410, PSY 420, PSY 439, PSY 444, PSY 472, PSY 477, PSY 510, PSY 572.

B. Foreign Language Requirement

All candidates for degrees awarded by the College of Arts and Sciences are required to have at least a minimum proficiency in some foreign language. The requirement may be met by the satisfactory completion of a sequence of three (3) five-hour courses including coursework at the intermediate level (through 105 or 135). Students who plan to continue the study of a language which they began at another institution must take a placement test before registering. If proficiency through the 105 or 135 level is determined by examination, this will constitute completion of the foreign language requirement. Consult the appropriate language departmental office for specific examination schedules. Transfer students having fewer than 15 hours of one foreign language may complete the requirement beginning at the point determined by a proficiency test. The student is advised to take the language proficiency examination as early as possible after admission lest a basic course have to be repeated with the result that the student loses credit for prior coursework. If the student wishes to pursue study of a different language than that for which credit was previously earned, the earlier credit will stand. The language courses may be taken by the satisfactory-unsatisfactory grading option as long as they are not part of a major. Intensive summer study in French and Spanish is available for students who have earned no previous foreign language credit in college.

C. Elective Requirement

Of the minimum of 186 quarter hours required for a bachelor's degree in the College of Arts and Sciences, 96 are normally earned before the student is admitted to this College. *At least 45 of the hours remaining after the first 96* must be earned in upper division courses outside of the student's major department. Fifteen may be in courses outside the college. However, no more than 15 quarter hours outside the College of Arts and Sciences will be counted toward the 186 minimum (except in special cases. 1 and 4 under "Credit for Course Work Outside the College" in General Regulations, above).

D. Residence Requirement

The last forty-five hours to be applied toward a degree must be completed in residence in the College of Arts and Sciences. In special cases this requirement may be waived, but in no case may the amount of extension or correspondence work permitted exceed eighteen of the last fifty-four hours required for the degree.

E. The Major

1. *Departmental Majors:* A departmental major consists of a concentration of course work in a specific department. On the application for admission the student must indicate an intended major, using the exact terminology as on the list of majors at the beginning of the Arts and Sciences section of this catalog. Computer printouts for self-advisement cannot be prepared for students who fail to indicate a major precisely as listed. The number of credit hours required for a major will vary from department to department, but in no case may the number of hours required be fewer than 36 hours or more than 60 hours in the major department. The student should check the major requirements in the section of the catalog which lists the courses offered by the major department. Some departments may require subsidiary courses from subject-matter fields other than the major. No courses in the major in which the grade earned is below "C" will be counted toward the fulfillment of the minimum major requirement nor may they be taken under the S-U grading option. Work in the major taken in the University College or transferred to the University from another institution is included in evaluating the student's record for this requirement. However, all transfer credit in the major

must be approved by the major department and any such credit which is not approved as a part of the major will not apply towards the total credit requirement for the degree.

2. *Interdisciplinary Majors*: As alternatives to the departmental major, the College offers two kinds of interdisciplinary majors:

a. The following interdisciplinary programs, which have been planned by the cooperating departments and adopted by the College, and which are described under the appropriate headings in the "Course Descriptions" section of this catalog:

1. American Studies
2. Asian Studies
3. Classics
4. Criminal Justice

For a description of each of these programs, see the appropriate heading under the "Course Descriptions" section of this catalog.

b. Individual interdisciplinary programs which are initiated and designed by the student in consultation with faculty members from different departments, supervised by those faculty members, and approved by the Committee on Interdisciplinary Studies. The major consists of not less than 36 credit hours of related course work taken in two or more departments and may include more than 15 hours of course work in another college. A student electing to offer such a concentration must meet the foreign language requirement, take 45 credit hours of course work in areas of study not directly related to her or his concentration, take 10 credit hours of ASC 498 or equivalent courses, under either or both faculty members who agree to supervise the student's program, and produce a Senior thesis.

c. The following interdisciplinary programs have been developed as a result of recent student interest in these concentrations:

Atmospheric Sciences
Biochemical and Neural Sciences
Linguistics
Neurobiological Sciences
Urban Studies
Film Studies

Students interested in pursuing an Interdisciplinary major should contact Associate Dean Ruth McQuown in the College of Arts and Sciences Office.

ATMOSPHERIC SCIENCES (METEOROLOGY)

Undergraduate students in the College of Arts and Sciences may be approved to develop an individualized interdisciplinary major in Atmospheric Sciences (or Meteorology) leading to the B.S. degree. The program is designed to provide the student with a background in the atmospheric sciences and their applications to such problems as air pollution, economic impact of weather on agriculture, influences of anthropogenic chemical releases on weather, atmospheric radiation, transmission of solar radiation through the atmosphere, and soil-water-air interfaces. The curriculum includes courses from such departments as Physics and Astronomy, Environmental Engineering Sciences, Fruit Crops, Mechanical Engineering, Agricultural Engineering, and Chemical Engineering.

For further information, consult Dr. Alex E. Green, 221 Space Sciences Research Building.

BIOCHEMICAL AND NEURAL SCIENCES

Undergraduate students interested in advanced work in biochemistry and neuroscience, as well as in the interdisciplinary area of neurochemistry, may apply for acceptance into the individual interdisciplinary major program of Biochemical and Neural Sciences in the College of Arts and Sciences. The program offers considerable breadth by virtue of its flexibility and the broad range of required and elective courses. Graduates of this program would have excellent backgrounds for research in a variety of the basic medical sciences, and would be well qualified for a variety of graduate and medical school programs.

Program applicants are required to have a good background in basic chemistry and zoology courses. Advanced-level work includes 1) course work required by both the Biochemistry and Neuroscience Departments. 2) research in neurochemistry, neuroscience, or biochemistry; 3) other elective courses to be selected from offerings by the Departments of Biochemistry, Botany, Chemistry, Microbiology, Neuroscience, Psychology, and Zoology.

For further information about the program as well as other programs which can be developed in other departments within the basic medical sciences, consult Dr. James A. Deyrup, Assistant Dean, College of Medicine, M128, Medical Sciences Building, J. Hillis Miller Health Center.

LINGUISTICS

An individualized major in Linguistics may be approved for undergraduate students in the College of Arts and Sciences. This program is designed to provide the student with a background in the study of language, dialects, communication, and particular languages. It will prepare the student for graduate work in linguistics or the study of languages, the teaching of English as a foreign language, and advanced work in the neurobehavioral sciences. The curriculum includes certain required core courses and optional courses from a variety of fields.

Interested students may consult Dr. Jean Casagrande, 478 Grinter Hall.

NEUROBIOLOGICAL SCIENCES

An individual interdisciplinary major in Neurobiological Sciences may be developed by academically strong undergraduate students in the College of Arts and Sciences through the faculty of the Center for Neurobiological Sciences. The program is intended to provide the student with a fundamental and broad-based academic foundation for graduate and professional programs and related areas.

The curriculum includes core requirements covering humanities; social sciences; and physical, natural, and biological sciences. In addition to the core requirements, students select courses in either a very broad or a more specialized program in, for example, such areas as animal behavior, neurochemistry, neurophysiology, sensory mechanisms, neuroendocrinology, brain and behavior, or neuroembryology. In order to focus their academic work in the various areas, all students in the program are required to participate in research with a member of the faculty of the Center for Neurobiological Sciences, coupled with a research seminar.

For further information about this program, consult Dr. Carol Van Hartesveldt, 359 Psychology Building.

URBAN STUDIES

Students in the College of Arts and Sciences who wish to pursue a major concentration in urban studies may apply to do so as an individual interdisciplinary major. The Urban Studies major is designed to provide a sound and broadly based program in the social sciences for students who plan to enter professional planning schools, graduate urban studies programs, or expect to work upon receipt of the baccalaureate degree.

The core of courses required of all students in the major provides the broadest possible exposure to the several disciplines concerned with urban problems and also to the broadest range of methodologies used in urban analysis. The major includes ASC 498, a ten-credit course designed to provide the student with an opportunity to integrate his or her disciplinary knowledge. If possible, the research project in that course is carried out in conjunction with an internship in a firm or agency suitable to the student's interests.

A number of faculty members from departments in the social sciences serve as a panel from which the student chooses a committee of at least two members to supervise his or her progress through the program and the ASC 498 project.

Questions about the program may be directed to Dr. Virginia R. Hetrick, 106 Bryan Hall.

FILM STUDIES

The College of Arts and Sciences in conjunction with other colleges offers a variety of courses related to the study of film as an art form. Students, working with the film studies adviser, construct their own patterns of courses suited to their personal interests. Courses offered in film work include:

BR 318 Broadcast Writing (4)*
BR 324 Broadcast Production I (4)*
BR 325 Broadcast Production II (4)*
BR 326 Broadcast Production III (4)*
BR 424 Cinematography for TV (4)*
BR 442 Documentary for TV (4)*
BR 358 Radio, Television and Film Writing (3)*
EH 281 Introduction to the Film (4)
EH 350 Movies as a Narrative Art (3)*
EH 355 History of the Film 1 (4)*
EH 356 History of the Film 2 (4)*
EH 381 The Theory and Practice of Modern Criticism (3)*
EH 489 Myth in Film and Literature (4)
EH 495 Film Studies (4)
EH 613 The Language of Film (4)*
PPY 370 Philosophy of Art (5)
EH 675 Studies in Movies (4)*
THE 220 Theatre Appreciation (4)

Students interested in the program are referred to Professor William C. Childers, 215 Building D, for information and advisement.

*Courses have prerequisites.

College Honors or High Honors will be awarded to any student who completes an individual interdisciplinary major program; earns in upper division work a grade point average of 3.3 or higher for Honors, or 3.5 or higher for High Honors; earns in the major work a grade point average of 3.3 or higher for Honors, or 3.5 or higher for High Honors; and is recommended by two members of his or her supervisory committee (including the principal supervisor) as having conducted an individual project in ASC 498 which is of high quality and reflects the interdisciplinary nature of the student's program.

Detailed information is available from Dean Ruth McQuown, 102 Anderson Hall.

ARTS AND SCIENCES HONORS PROGRAMS

Consistent with its view that higher education should result in the development of each student as an intellectual individual, this college gives its students individually tailored degree programs of formal courses. In addition the College offers a variety of opportunities for independent and seminar honors work to those of its undergraduates who have demonstrated appropriate qualifications.

Superior students should take initiative in planning undergraduate and graduate programs. They should consult advisers about Departmental and High Honors, Phi Beta Kappa, and scholarships like Rhodes, Danforth, Marshall, Fulbright-Hays, and the National Science Foundation. For further information, see Professor Sidney Homan in 104 Building D.

Dean's List

The Dean's List recognizes outstanding academic achievement at the completion of each quarter. Inclusion on the list is awarded to all students who during that term have earned a grade point average of 3.5 or higher on coursework of at least 15 hours. This award is not granted for courses taken under the S-U option or for which a grade of "I", "N", "X" or "H" has been submitted.

Departmental Honors

A student may be recommended for this distinction by his major department. Each department will set its own requirements for departmental honors work and will be required to print them explicitly in the catalog.

Baccalaureate College Honors

College Honors will be awarded to all students who earn a grade point average of 3.3 or higher in their upper division work and either (1) successfully complete a departmental honors program or (2) satisfactorily complete at least 12 credits of the College Interdisciplinary High Honors Seminar (ASC 487).

Baccalaureate High Honors

High Honors will be awarded to all students who earn a grade point average of 3.5 or higher in their upper division work and either (1) successfully complete a departmental honors program or (2) satisfactorily complete at least 12 credits of the College Interdisciplinary High Honors Seminars (ASC 487).

High Honors Seminars: High Honors Seminars bring together outstanding faculty and students from the four major divisions in the College: Humanities, Social and Behavioral, Biological, and Physical and Mathematical Sciences. Some seminars explore the inter-relation of the disciplines; one week a poet may be the guest, the next week a nuclear physicist. Other seminars focus on a specific topic, such as impeachment or the concept of rhythm in music and the biological world. Students share the responsibilities of working with the guests, devising new seminars, inviting visiting campus speakers and dignitaries to the program. There is a special room and library for the participants, as well as an expense fund for books and travel. Work is done both in the seminar room and in the field.

A candidate for High Honors normally registers for ASC 487 for three quarters, preferably consecutive, and earns 12 hours creditable towards the elective requirement. The aim is to have a place in a High Honors seminar for all qualified and interested students. Membership is open to Juniors or Seniors with at least one quarter of residence in the College; students are chosen on the basis of academic average, service to the university and the community, and an informal interview with the High Honors Board of Directors. But the main criterion is: what unique gift can the individual student bring to the discussion?

Qualified students may get application forms in 113 Anderson Hall. Applicants should consult the High Honors Director, Professor Sidney Homan, in 104 Building D at least a quarter in advance of that for which they seek admission.

The High Honors Seminars are designed to complement University College and Departmental honors programs. For students and faculty, participation is recognition of their high standing in the College and of their desire to be useful members of society.

PHI BETA KAPPA

Phi Beta Kappa is an honorary scholastic society for students of high intellectual ability with a broad liberal education. The first chapter was founded in 1776 at the College of William and Mary. The UF chapter was established in 1938. Election is by invitation, not application.

Not over 10 percent are chosen from those ranking academically in the upper 15 percent of the senior class in the College of Arts and Sciences who also meet the following criteria: at least 68 quarter hours of courses in the College of Arts and Sciences; completion of the foreign language requirement; a broad distribution of letter-graded upper division electives outside the major subject (notably, in the humanities, social sciences, mathematics, and the physical and biological sciences); and superior academic performance in lower and upper division generally, as well as in the major field.

Students in colleges other than Arts and Sciences who meet these requirements may be recommended in writing by the dean of their College. The society also considers a selected number of graduate students in Arts and Sciences who have earned the Ph.D. during the previous year.

For further information, communicate with the Chapter

Secretary, whose name and address can be obtained from the Office of the Dean of the College of Arts and Sciences.

SPECIAL PROGRAMS

TEACHER PREPARATION IN ARTS AND SCIENCES

Students may earn their degrees in the College of Arts and Sciences, and complete requirements for certification as high school teachers in one or more academic subjects by following one of the Arts and Sciences-Education Programs described in the College of Education section of this catalog.

Further information may be obtained in the office of Student Academic Affairs of the College, 113 Anderson Hall.

SPECIALIZATION IN AUDIOLOGY AND SPEECH PATHOLOGY

A preprofessional academic/clinical program precedes the master's degree study which is accredited by the American Board of Examiners in Speech Pathology and Audiology. This program may be arranged through the College of Arts and Sciences or the College of Education. For admission to either program the student must consult a faculty adviser assigned by the Department of Speech (442 Arts and Sciences Building). Program requirements are described in the Speech Department section of this catalog.

To qualify for the Certificate of Clinical Competence in Audiology or in Speech Pathology awarded by the American Speech and Hearing Association or to obtain endorsement by the College of Education and the Department of Speech for State Department of Education certification in Speech Correction, it is necessary to complete a master's degree or equivalent.

SPECIALIZATION IN THE FINE ARTS

Music: Students interested in majoring in music should consult the faculty adviser, Music Building, as soon as possible in their college program.

The student who selects a major in Music must earn a total of sixty quarter hours in the following courses:

	Hours
Applied Music in approved courses numbered above 100	12
Theory of Music, MSC 101, 102, 103, 104, 105, 106, 201 202, 203, 204, 205, 206	24
Survey of Music History, MSC 317, 318, 319	12

Upon completion of the above courses, the student must select an area of concentration, i.e., Applied Music, Theory of Music or History and Literature, and earn twelve credits in that concentration. (These required twelve credits are in addition to those listed above and must be specifically approved for each student.) The student must also register for and participate each term in ensemble music groups.

A piano proficiency examination is required of all music majors. The student must take Piano Skills until he has met this requirement.

A Senior student concentrating in the area of Applied Music will present a Senior Recital. In the areas of Theory and History and Literature, the Senior will present a project which demonstrates his competence in his area of specialization.

For graduation with departmental honors in music, the student should apply to the chairman of the teaching faculty in his intended area of concentration at the beginning of his Junior year. In addition to the grade-point average requirement, the student concentrating in the area of Applied Music will present a Senior Recital which is adjudged by the music faculty as having reflected honors-level work in applied music in the upper division. The student in Theory of History and Literature must present an honors project in his specialized area. This project will be prepared in connection with twelve credit hours from Music Theory courses MSC 303, 304, 305, 306, 307, 308, 403, 404 or 407; or from History and Literature courses, MSC 311, 312, 314, 315, 316, 317, 411, 413, 414, 415, 416; and with the approval of the music faculty.

ART: The student who elects a major in Art must earn a total of not less than forty-five quarter hours including the following courses: (1) ART 101-102, ART 103-104, ART 207-208-209, a total of twenty-one hours; (2) a minimum of twelve additional quarter hours in a single field of specialization: Fine Arts; History of Art; or Crafts; and (3) ART 430, 4 hours.

Students should consult Professor Eugene E. Grissom in planning a major program.

THEATRE: Students selecting Theatre as a major must earn a minimum of 45 credit hours in theatre courses. The specific individual program should be worked out in advance with Professor E. James Hooks.

Transfer students must earn at least 18 credits in the department. Transfer credits will be evaluated in terms of their appropriateness to the degree requirements. In special cases, auditions or tests may be conducted.

Core Curriculum required of all B.A. candidates: THE 225 —Oral Performance of Literature; THE 320 — Acting 1; THE 324 — Stagecraft and Design 1; THE 328 — Play Analysis; THE 329 — Directing 1; THE 330 — Directing 2. Total: 24 credits.

Additional requirements: 1) Student must complete at least three of the two or three course sequences in Theatre (excluding the 329, 330 Directing sequence). 2) Student must complete at least eight credits in courses numbered 400 or above.

Curriculum limitations: 1) Student may not earn more than eight credits in Acting. For B.A. candidates, Acting 1 and 2 (320, 321) will constitute a course sequence. 2) Student may not earn more than eight credits in Movement. For B.A. candidates, Movement 1 and 2 (331, 332) will constitute a course sequence.

CERTIFICATE PROGRAMS

AMERICAN AREA STUDIES PROGRAM

In addition to the major in American Studies (see description under interdisciplinary studies in this section) the College of Arts and Sciences offers a certificate program for students majoring in a conventional discipline who wish to focus their work on America. The student fulfills the requirements for a departmental major, elects 36 credits from among American related courses, including those in his major field, and takes AMS 200, Introduction to American Studies; AMS 454, Studies in American Civilization; and AMS 455, Senior Seminar in American Civilization. Interested students are referred to Professor Stephen S. Conroy, 219 Building D, for information and advisement.

LATIN AMERICAN STUDIES PROGRAM

For students interested in Latin American area studies, the College of Arts and Sciences offers two options:

1. A special curriculum, based on a single departmental major (selected from the fields of Anthropology, Economics, Geography, History, Political Science, Sociology, and Spanish), leading to a B.A. degree and a Certificate in Latin American Studies. (See Latin American Studies section of this catalog); or

2. An individual interdisciplinary program, developed and coordinated through the Center for Latin American Studies and approved by the Interdisciplinary Committee of the College of Arts and Sciences, and leading to a B.A. degree. (See section on degree requirements for College of Arts and Sciences.)

Through special arrangements, undergraduate students in the College of Business Administration, the College of Education, and the College of Journalism and Communications may participate in the above programs.

SOVIET AND EAST EUROPEAN AREA STUDIES

The College of Arts and Sciences offers to undergraduate students an integrated program in Soviet and East European studies. The program provides a broad foundation for

those preparing for graduate work in the field and for those who plan a career in government service.

The program is based on a major in one of the following departments: Economics, Geography, History, Philosophy, Political Science, Religion, Foreign Languages. The student must demonstrate a reading knowledge of Russian or an East European language, and his over-all program must include at least 36 hours of work from the courses listed below. A maximum of 14 course hours within the major may be used in fulfilling the 36 hour area requirement.

Courses in the program include: ES 418, 449, 496, 513, 606; FLE 230; GPY 490, 491; HY 330, 331, 332, 413, 496, 501, 624, 626; PCL 410, 443, 444, 455, 496, 505, 506, 666; POL 133, 134, 135, 136, 427, 496, 596; RN 375; RSN 133, 134, 135, 202, 250, 304, 406, 412, 413, 414, 427, 428, 440, 441, 496, 506, 512, 513, 514, 527, 528, 540, 551, 596; PPY 363. Fifteen credits of German may also be accepted for students who are specializing in the German Democratic Republic or comparative communist systems.

All students interested in this program, including lower division students, should consult with Dr. Marvin Entner, Room 105 Grinter Hall or with Dr. James F. Morrison, Room 429 Grinter Hall.

AFRICAN STUDIES PROGRAM

The African Studies Program is administered by an African Studies Center responsible for the direction and coordination of interdisciplinary instructional and research activities related to Africa. It cooperates with University departments, schools and colleges in administering and staffing a coordinated certificate program. The Center does not offer an interdisciplinary degree. With the cooperation of participating departments, it offers a certificate in African Studies in conjunction with the B.A., M.A. and Ph.D. degrees.

To receive a Certificate in African Studies in conjunction with the B.A. degree a student must: 1) take ASC/BES 202 Introduction to African Studies, HUM 233 African Humanities, FLE 302 Introduction to African Linguistics, ASC 450 African Studies Senior Integrative Seminar; 2) three of the following: APY 443 Africa — Traditional Peoples and Cultures, GPY 496 Geography of Africa, HY 343 Africa to 1800, HY 344 Africa Since 1800, HUM 250 The Language of Art, Literature, and Religion in West Africa, PCL 343 African Government and Politics; and 3) 11-12 credits of distribution requirements which may be met by courses with specific African content excepting SI 133. A list of approved courses for requirement 3) is available on rquest from the Center office.

For Certificate requirements at the M.A. and Ph.D. levels see the Graduate School Catalog. For further information on the Center's Certificate requirements, interdisciplinary majors based on African themes, and other related matters contact Professor Haig Der-Houssikian, Director, Center for African Studies, 470 Grinter Hall, University of Florida, Gainesville, Florida 32611.

AFRO-AMERICAN STUDIES PROGRAM

An interdisciplinary program leading to a certificate in Afro-American Studies is offered by the College of Arts and Sciences. The program is designed to furnish students an inclusive knowledge of the historical experience and condition of peoples of African origin in America. Courses in the program are offered by a number of departments including Anthropology, Economics, English, History, Political Science, and Sociology. In order to be awarded the certificate the student must complete at least thirty-six credits from the courses offered, constructing in consultation with the program adviser a pattern of classes which best fits his interests and needs. In addition, the student must complete a departmental major and fulfill the requirements for graduation from the College of Arts and Sciences.

Requirements for the certificate include: (1) one or two courses from the African Studies Program plus HY 343, Africa to 1800, 4 credits; (2) the introductory foundation course, ASC 201, Introduction to Afro-American Studies, 4 credits, normally taken in the Sophomore year; (3) ASC 453, Afro-American Studies Senior Integrative Seminar I, 4 credits, which serves to further identify and explore problems in the Afro-American field; (4) ASC 454, Afro-American Studies Senior Integrative Seminar II, 4 credits, enabling the students to work with specialists on Afro-American research problems.

Additional courses in the program include: courses in the African Studies Program; APY 405; EH 345, 346; ES 415; HY 349, 350, 456, 457; MSC 412, 417; PPY 490; PCL 412 (when applicable), 419; PSY 430; SY 202, 391, 492.

Interested students are encouraged to contact the program director, Professor R. C. Foreman, Jr., 214 Building D; or Professor Stephen Conroy, 219 Building D, as soon as possible.

WESTERN EUROPEAN STUDIES PROGRAM

The College of Arts and Sciences of the University of Florida offers an undergraduate interdisciplinary program leading to the Certificate in Western European Studies. The program is designed for students interested in Western European culture, language, history, society, and politics. It should also be of value to students who wish to become European regional specialists or who are contemplating careers in such fields having to do with Western Europe as government service, international law, business or trade.

Each student works with an adviser in constructing a program of courses suited to his own specific interests, needs, and background. The student majors in the department of his choice but selects courses with Western European content from a number of the following departments involved in the program: Anthropology, Art, Economics, English, Geography, Germanic Languages and Literatures, History, Music, Philosophy, Political Science, Religion, and Romance Languages and Literatures.

In order to receive a Certificate in Western European Studies, a student is required (1) to complete courses totaling at least 36 credits (up to 15 of which may be from his major department) from among appropriate courses with Western European orientation in the participating departments; (2) to take a minimum of two courses from the European history sequence HY 320, 321, 322, 323, or to offer an equivalent substitute selected in consultation with program adviser; (3) to demonstrate a reading and speaking knowledge of a Western European language (this requirement may be satisifed either through course work or with a special examination; the same language may not, however, be offered simultaneously to meet the requirement of some other area study program); (4) to participate in ASC 460, the interdisciplinary Western European Studies Seminar during Winter Quarter of his Senior year.

Students desiring further information about the program are urged to contact any member of the Western European Studies Committee: Professor Douglas Bonneville, Romance Languages; Professor David Denslow, Economics; Professor David Conradt, Political Science, chairman; Professor Ernst Schurer, Germanic Languages; or Professor John Scmmerville, History,

ENVIRONMENTAL STUDIES MINOR PROGRAM

A program for a minor (with certificate) in Environmental Studies is available for anyone with a major in the College of Arts and Sciences. The program is designed to be of interest to students concerned with environmental issues. Electives can be structured around an environmental theme, giving experience in an area that may expand career opportunities and make education more meaningful.

The course selection will serve to increase the student's knowledge of the interaction of man and his environment. A number of environmentally related courses requiring no prerequisites are included to help non-science majors become environmentally aware. Science majors will be able to relate their major discipline to current environmental problems through more advanced course work.

The Environmental Studies minor requires a minimum of 18 credits of approved environmentally oriented courses

with at least one each from the Social, Physical and Biological Sciences to total 12 to 15 credit hours.

Courses required for the student's major cannot be counted toward the minor requirement. Courses both within and outside the College which bear on various aspects of environmental problems may be used for the minor and at the same time to fulfill the student's elective requirements. The Arts and Sciences limitation of 15 hours which may be taken for credit outside the College is waived for the Environmental Studies minor. An inventory file of approved courses for the Environmental Studies minor is available in 210 Bartram West.

Students interested in the *minor* should consult with their departmental adviser and the Environmental Studies Adviser in 210 Bartram Hall.

It is also possible to develop a major in Environmental Studies under the College's individual Interdisciplinary major program, where one is able to formulate a major from appropriate course areas in two or more departments. Students interested in an interdisciplinary major in Environmental Studies are referred to the interdisciplinary major description under the Arts and Sciences section of this catalog. Those interested in the major should contact Dean Ruth McQuown, 102 Anderson Hall.

CORE PROGRAMS

SOCIAL INTERVENTION SYSTEMS

This interdisciplinary curriculum is designed to give the student knowledge of the nature and interrelationships among various social and community organizations. At the outset, coursework will emphasize general topics such as urbanization, minority group relations, and social change. The student may then emphasize a more specialized area such as medical sociology, deviant behavior, gerontology, or educational sociology.

This program will: (1) enable the student to more effectively participate in community living, (2) prove valuable for students wishing to pursue community work, and (3) provide an adequate foundation for students planning graduate work in Sociology or Social Work.

The Social Intervention program leads to the degree of Bachelor of Arts and all requirements for the departmental major in Sociology must be met. The strength of the program, however, lies in its interdepartmental nature. The student will be expected to include courses in Anthropology, Economics, History, Political Science, and Psychology among his or her electives.

Interested students should contact Professor Pamela Richards, Department of Sociology, Room 309 Peabody Hall, for assistance in planning their programs.

GOVERNMENT ADMINISTRATION, MANAGEMENT, and PLANNING

The undergraduate core program in public administration provides students with a broad foundation in the management practices and related issues, and in the public policy implications of administration at all levels of contemporary American government. This program is recommended for students who will be seeking either entry level career positions in government or graduate level programs of professional training in public administration.

Students in the public administration core program will ordinarily major in Political Science and will concentrate on administrative and related courses both in their major and in their electives. Students in this program are authorized to take up to 15 hours of coursework outside of the College of Arts and Sciences in order to pursue studies in the management area. Recommended courses for students in the public administration core are listed below:

A. Strongly recommended PCL courses: PCL 411, 413.

B. Recommended PCL courses: PCL 220, 321, 323, 325, 412, 414, 427.

C. Strongly recommended courses outside PCL: ATG 201, STA 310, or 320, ES 201, ES 202, ES 534.

D. Recommended courses outside PCL: PSY 201, PSY 340, ES 431, SY 201, SY 350, SY 391, MGT 350, MGT 450, CIS 306, BA 300, SCH 302.

Actual work experience in government is an invaluable adjunct to a student's program of formal study in the field of public administration. For this reason students are encouraged to seek out temporary positions in government agencies as summer jobs. Several different kinds of opportunities are available. Some students have been successful in finding such positions in the local governments of their home towns. Other students have located jobs in state agencies either in Tallahassee or in regional offices located throughout the state. Students may also seek positions through the federal summer internship programs; information on federal work opportunities is available through the Career Planning and Placement Center in Reitz Union. Students who are interested in working out a program of study and analysis to complement their work experience in these kinds of jobs may receive up to 5 hours of credit under a PCL 430 Special Topics course.

JEWISH STUDIES

Administered by the Center for Jewish Studies, this program provides an interdisciplinary and interdepartmental curriculum which serves as a basis for understanding the broad sweep of Jewish civilization. Through course work in various departments, including Religion, Foreign Languages, English and Philosophy, students may acquaint themselves with and specialize in areas within Jewish studies including Biblical Studies, Jewish history, Jewish philosophy and Jewish literature. It is expected that students in the program will demonstrate or acquire competence in Hebrew. The program may serve as preparation for graduate work in Jewish Studies, whether in a university or seminary setting.

The Jewish Studies program leads to the degree of Bachelor of Arts and requires completion of a departmental major. Working with advisers from the Center for Jewish Studies, students may construct individually oriented programs best suited to their needs, programs that take full account of previous preparation. Interested students should consult with Professors B. Mesch or S. Isenberg, 368 J. Wayne Reitz Union.

ENGLISH LANGUAGE INSTITUTE

A full-time noncredit, nondegree program in English as a second language is available to foreign students with some knowledge of the language who wish to increase their competence. The program, which may be taken any of the quarters of the academic year, emphasizes the oral and written skills needed by students from abroad who plan to attend a university in the United States. Further information is available from Dr. Jayne C. Harder, Director, English Language Institute, 162 Grinter Hall, University of Florida, Gainesville, Florida 32611.

CHAIR OF AMERICAN STUDIES

Through the generosity of the American Legion, Department of Florida, which has provided a fund of $40,000 for this purpose, supplemented by legislative appropriation, there was established a Professorship in the Department of History of the College of Arts and Sciences known as the "Chair of American Studies." This chair was established to present courses and lectures on American ideals, American government, American institutions, and American citizenship.

The Professor of American Studies was designated to teach courses in American History and to promote special programs on American ideals. Although the University offers for Freshmen a nine credit, three quarter course entitled, "American Institutions," a number of additional courses in American History are offered as electives. A central theme in many American History courses is the struggle of the people of the United States for a more perfect democracy.

Part of the income from the endowment of the Chair of American Studies is used to bring outstanding Americans to the University of Florida for a series of addresses on the theme of American traditions. Many of the lectures are

published and distributed as a part of the American Studies program of the University.

PLACEMENT SERVICE

The Career Planning and Placement Center, located in Suite G-22, J. Wayne Reitz Union, is the centralized job placement facility for students and alumni of the College of Arts and Sciences. -

The Center contains an extensive Career Information and Resources Library, and an audio-visual inventory of career investigative and job search materials. You may wish to use these on a self-help basis or in conjunction with personal or group vocational/occupational counseling.

Personnel at the Center will help you identify career choices and match these with your academic major or interests. You will, also, find assistance in developing a career plan, organizing a personal job search program and improving your communication skills in interviewing, resume and application letter writing.

The objective is to aid you in putting your education to work in a field that will be both satisfying and rewarding to you. In this regard, the Center hosts several hundred representatives from business, industry, education and government each year. These persons are on campus to interview job candidates in fields ranging from bachelor liberal arts graduates to science doctorates.

Undergraduates should register with the Center immediately upon starting their Senior year of college. Graduate students should register as they enter the final year of their studies.

For additional information visit the Center or contact Mr. Maurice E. Mayberry, Director.

STUDENT COUNCIL

Of all types of student organizations on campus, few are concerned specifically with enhancing the academic and intellectual environment within the college community. The Arts and Sciences Student Council claims such concern. Composed of student representatives from each of the college's departments, the Council acts to initiate and promote effective two-way communication between students and faculty and administration. Further, it provides students an opportunity to creatively participate in the decision-making processes within the College through their role as an advisory body to the Dean.

In recent years, the areas of faculty-student interaction, student rights, teaching excellence, and quality of education have received special scrutiny by the Council. As a result, several ongoing programs have been established. These include a fully equipped Calculator Laboratory and a Peer Advising Staff. To encourage and honor teaching excellence, the Council presents the annual Teacher of the Year Award. And for the protection and furthering of student rights, a student grievance board has been made available. Many other projects are undertaken on a quarter-to-quarter basis such as bringing distinguished personalities-of-note to campus and the sponsoring of debates and seminars on a wide range of topics.

The Council's growth and effectiveness depends upon student involvement. Interested participants should contact the Student Council office, 190 Building E, or the Arts and Sciences office, 103 Anderson Hall.

STUDY ABROAD (BOGOTA)

An agreement between the State University System of Florida and the Universidad de los Andes in Bogota, Colombia, allows undergraduate students to study in Latin America for up to one year. The program is administered through the Center for Latin American Studies.

The Universidad de los Andes is a private university with an organization similar to that found in U.S. institutions of higher education. Bogota, the city in which the Universidad de los Andes is located, is the capital of Colombia. It offers a variety of music, art, theater and museums and enjoys a year-round Spring-like climate.

The principal features and requirements of the program are:

Length of Program: Interested students may attend an Intensive Course in Spanish for Foreign Students offered for six weeks during June and July annually. In addition, they may take up to two regular semesters in residence, August to December and January through May.

Courses: All credits earned at Universidad de los Andes are transferable to the Florida institution on the basis of prior approval of student's U.S. advisor or Registrar. Arts and Sciences majors must have prior approval of the Dean of the College.

Faculty: The greater part of the faculty of Universidad de los Andes have received graduate degrees or training in the United States and about 28 percent are graduates of foreign universities.

General Educational Requirements: Applicants must have completed at least 48 quarter hours of college or university work.

Academic Prerequisites: An academic average of 2.5 or better on all work completed at U.S. institutions, over a period of four quarters.

Language Prerequisites: A minimum of four quarters of college level Spanish, completed before departure, or a certificate stating that student has completed a functional Spanish language test.

Tuition: Same as for Colombian students, approximately $175 US for the Summer Intensive Language course and approximately $400 US for each semester.

Housing: While in residence at Universidad de los Andes, U.S. students will be housed and fed in approved private Colombian homes. Cost will be approximately $100 US per month for room, meals and laundry.

Health Insurance: Students may be covered by the same Blue Cross-Blue Shield Student Preferred Contract available to students of the State University System of Florida, approximately $8.36 bimonthly for an individual and $23.92 for a family.

Travel Costs: Spring 1976, rates subject to change: Round trip Miami-Bogota, valid for one year $283. APPLICATION DEADLINES. *Two months* prior to departure.

For additional information write to Assistant Director, Center for Latin American Studies, 319 Grinter Hall, University of Florida, Gainesville, Florida, 32611 (904 392-0186).

STUDY ABROAD (UF-POZNAN EXCHANGE)

The University of Florida has had an exchange program with the Adam Mickiewicz University of Poznan, Poland, since the fall of 1973. It is the largest and most comprehensive program between an American university and a university in the communist world. Within the framework of the program there are a number of opportunities for Florida undergraduates, graduate students, and faculty to spend from 3 to 12 months in Poland—in Poznan or in other Polish higher educational institutions elsewhere in the country.

Up to 14 fellowships are available for UF graduate students (or exceptionally well-qualified and highly motivated mature undergraduates) to spend 9 months studying or doing research in Poland during the academic year. Stipends cover Polish university tuition, dormitory room, health care, the opportunity to purchase meals at a reduced rate ($12/month) in student cafeterias, 1/3 reduction on urban public transportation and inter-city rail fares, other privileges of Polish students, plus 2400 zloty ($80 at the 33:1 tourist rate of exchange) per month for expenses. Students are able to pursue almost any course of study under the direction of a Polish faculty sponsor who is normally selected after the student's arrival in Poland. Students participating in the exchange should have as much knowledge of Polish as possible and can build up their knowledge of

Polish in the following ways: taking Polish 133-134-135 at UF during the academic year; taking an intensive 10-15 credit Polish course at UF in the spring; participating in the UF summer program in Poznan (see next item below), which is normally a requirement for participation in the year-round program; and taking part in the intensive Polish language program offered during the academic year in Poznan (a program that gradually diminishes in intensity as the students begin to get more involved in auditing courses and special research projects under the supervision of their faculty sponsors).

During the summer a special 8-week institute on Polish language and contemporary Polish society is offered in Poznan under the joint sponsorship of UF and the institute of English of the A. Mickiewicz University of Poznan. Full participation in this summer program is worth up to 15 UF quarter hour credits. Students may sign up for 5-15 credits of political science (Polish political and social institutions), 5 credits of history (modern Polish history), or 5-10 credits of economics (socialist economic systems and economic planning). This program is open to anyone—including out-of-state students who may take the course on a non-credit basis or arrange credit at their own institutions on the basis of a letter provided by the A.M.U. staff and UF summarizing their "non-credit" work). The approximate cost of the 8-week program is $600 (including UF tuition or non-credit fees, room, meals, visa, and required field trips in Poland) plus transportation to and from Poland and the cost of any travel in Poland or elsewhere in Europe before or after the summer program. (If there is sufficient interest shown by the students, a 10-14 day informal tour of Poland will be arranged at the end of the 8-week program.)

It is also possible for UF faculty to spend from one month to a year in Poland under the auspices of our exchange program, either lecturing (in English), doing research, or both. It is easiest to work out a direct exchange with a faculty member from Poland, but it is also possible for a few UF faculty members to go to Poland each year without such a direct exchange. The UF faculty member receives either a small per diem (for short-term visits) or a salary in Polish zloty, plus housing, health insurance, and a 50 percent reduction on train travel in Poland. In some cases travel grants can also be arranged for the grantee (but not for his family).

For further information contact: Dr. James F. Morrison, 439 Grinter Hall, or Dr. William Sullivan, 433 Grinter Hall.

STUDY ABROAD (UTRECHT)

The University of Florida offers a foreign study program at the University of Utrecht in the Netherlands for its own and other undergraduates in the State University System of Florida. The 1975-76 program consisted of intensive Dutch language instruction during the Fall, together with several orientation sessions developed by Professor Jorge Martinez of the University's Mathematics department, who was Program Director. From January to June, 1976, the students took courses offered by University of Utrecht professors, some in the English language, others in Dutch. These were in several disciplines, such as sociology, English literature, economics, and psychology. In every case the University of Florida major departments worked with the student to guide his or her selection of courses and insure credit toward graduation. Credit is transferred to the student's record at his or her home university in the Florida system.

Clearly one of the advantages of the Florida Abroad at Utrecht program is the opportunity to experience Dutch and European culture directly by studying and living with foreign students.

The basic cost to participate in the program in 1975-76 was $1,465 to cover tuition, medical insurance, and nominal service charges. Trans-Atlantic travel, housing, food, and incidental expenses are the student's own direct responsibility. The estimated total expense for the entire 9-month period was $3,700.

In addition to the overseas Director, a Program Coordinator, Professor Samuel S. Hill, Jr., is available to assist. Further information may be obtained from the Coordinator (Department of Religion).

Additional approved foreign study programs administered by other units in the State University System are available to UF students. Locations include Florence, Haifa, London, and Paris. An Arts and Sciences student must complete at least one quarter's coursework in residence in Gainesville after participating in a foreign study program.

The College of Business Administration

ACCOUNTING
BUSINESS ADMINISTRATION — GENERAL
ECONOMICS
FINANCE, INSURANCE, AND REAL ESTATE
MANAGEMENT
MARKETING

The College of Business Administration

GENERAL STATEMENT

The College of Business Administration of the University of Florida was organized in 1926-27. The divisions of the College are: Department of Accounting; Department of Economics; Department of Finance, Insurance, Real Estate and Urban Land Studies; Department of Management; Department of Marketing; and Bureau of Economic and Business Research.

The College of Business Administration has broad objectives; to provide the foundation for competent, responsible participation in business, the professions and government; to stimulate interest in social, economic and civic responsibilities; to develop competence in making business decisions and in evaluating policy; to offer fields of specialization in business or economics, and, especially, to encourage intellectual inquiry.

Specific arts and detailed information are necessary parts of the curriculum, but the guiding principle of this College is to stress broad fundamentals in terms of the above objectives, and to prepare the student to develop subsequent specialization. To this end, every curriculum of the College is constructed around a core of courses in economics and the major functional areas of business.

The College also has other functions. It contributes to knowledge through the research activities of its faculty and students. Graduate programs are provided for advanced students and prospective teachers in business administration and economics. The College participates in programs of adult education both on and off campus. It recognizes its responsibilities to students in other colleges of the University by giving them an opportunity to complement their education with courses in economics and business administration.

The College maintains a computer facility for instructional and research purposes. Advanced students also have access to the University Computing Center, which contains high-capacity equipment.

SCHOLARSHIPS AND ASSISTANTSHIPS

Scholarships are available for students in Business Administration. Full information about these scholarships may be obtained from the Director of Student Financial Aid, University of Florida, Gainesville, Florida.

Graduate assistantships and fellowships are available for students working toward the degrees of Master of Business Administration, Master of Arts, and Doctor of Philosophy. Information about these assistantships may be obtained from the Director of Graduate Studies, College of Business Administration, University of Florida, Gainesville, Florida.

BUREAU OF ECONOMIC AND BUSINESS RESEARCH

There is established in the College of Business Administration a Bureau of Economic and Business Research. One of the major purposes of this Bureau is to carry out research undertakings designed to contribute to economic and business knowledge, with primary emphasis upon the economy of Florida and the Southeast. A second major aim is the functional participation of the faculty members of the Bureau staff in the curriculum for graduate training offered by the College of Business Administration and in this way to provide opportunity for graduate students to engage in specific research projects. From time to time work is undertaken which permits a similar opportunity for undergraduate students.

The Bureau publishes the results of its research undertakings as these are completed. It also issues periodically a publication, *Economic Leaflets*, and *Business and Economic Dimensions*.

The Bureau is a member of the Associated University Bureaus of Business and Economic Research.

MEMBERSHIP IN NATIONAL AND REGIONAL ASSOCIATIONS

The College of Business Administration is a member of the American Assembly of Collegiate Schools of Business, the Southern Economic Association, the Southern Business Administrative Association and the National Retail Merchants' Association. Its baccalaureate and MBA programs are accredited by the American Assembly of Collegiate Schools of Business.

BETA GAMMA SIGMA

Election to this national honorary society is based on scholarship and character. It fills the place in education for business that the society of Phi Beta Kappa holds in the field of classical education. Duly elected members have the right to wear the *insigne* of the society — the Beta Gamma Sigma gold key. For further information apply to the Office of the Dean.

PROFESSIONAL ORGANIZATIONS AND CLUBS

There are six professional fraternities which elect members from students in the College of Business Administration. These are Alpha Kappa Psi and Delta Sigma Pi in commerce and business, Beta Alpha Psi in accounting, Omicron Delta Epsilon, in economics, and Phi Chi Theta for business women, and Rho Epsilon in real estate. Several clubs also give students with specialized interest an opportunity to participate in their activities: The Insurance Society, AIESEC-US, and a student chapter of the Society for Advancement for Management elects its memberships both from this College and the College of Engineering.

WOMEN IN BUSINESS

Rapidly increasing opportunities exist for women graduates in many business fields. Illustrative areas are marketing, banking, accounting, economic analysis, insurance, real estate, personnel administration, statistics and investments.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Business Administration encourages applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this college. It should be understood however that minimum requirements are given and that admission to this college is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objective, pattern of courses previously completed, quality of previous academic record, and test data will all be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

University College Students: To be eligible for admission to the College of Business Administration, a University College student must have completed at least one quarter in

University College. Acceptance to the College of Business Administration will be based upon the grade point average earned and prerequisite courses completed.

Transfer Students: To be eligible for admission to the College of Business Administration, a transfer student must satisfy the minimum requirements for admission that are set forth in the transfer admissions section below. Additionally, the applicant should complete, as far as possible, the courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the University College section. Completion of these courses and receipt of an AA degree does not guarantee acceptance to the College of Business Administration. Acceptance to the College of Business Administration will be based upon prerequisite courses completed and the student's earned grade point average.

A. Students attending four year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore years for students desiring to enter the College of Business Administration which is outlined in the University College section of this catalog. Prerequisite courses in business subjects during the first two years should be completed as indicated in paragraphs B.3 and B.4 below. Courses should not be taken during the first two years which are offered only at the upper division level at the University of Florida.

B. Junior College and Community College students should:

1. Complete the university transfer program at the junior college.

2. Complete the general education requirements established for the junior college.

3. Complete, insofar as possible, all of the following courses which are prerequisite to any advanced professional work in the College: a one-year sequence in accounting, a one-year sequence in economics, a one-year sequence in analytical geometry and calculus, an introductory course in statistics, a course in economic and business statistics, a course in logic.

4. Complete the one-year course in accounting and/or economics at the junior college. Differences in the order of presenting material in basic one year courses make it highly undesirable to take parts of such courses in different institutions.

5. Choose elective courses needed to complete the total 64 semester hours in the university transfer program from such areas as mathematics, natural sciences, social science, foreign language, and humanities.

6. Avoid professional coursework that is available at the University of Florida only as 3rd and 4th year courses. TRANSFER STUDENTS ARE ADVISED TO AVOID SUCH COURSES AS BUSINESS LAW, PRINCIPLES OF MARKETING, PRINCIPLES OF MANAGEMENT, PRINCIPLES OF INSURANCE, PRINCIPLES OF REAL ESTATE, PERSONNEL MANAGEMENT, AND COMPUTER MANAGEMENT COURSES. A maximum of six quarter credits may be allowed for courses taken during the first two years which are available only as third and fourth year professional courses in the College of Business Administration.

Any credit granted for such work will be in the form of undistributed elective credit without reference to specific courses taken, but in no case may such courses be in the student's major field. In the case where a student wishes to waive a core course and substitute a community college course, waivers may be granted on an individual basis but the student will be required to take another course in the area being waived. The course will be specified by the Department Chairman of the area.

Provisional Admission: Within space limitations, students who do not meet precisely the admission requirements indicated in the appropriate section above may be granted provisional admission to the College of Business Administration. The Dean of the College of Business Administration will specify the courses to be completed and minimum grade points to be earned by the student during the term of his provisional admission. Provisional status will be removed and the student fully admitted to the College of Business Administration provided he fulfills the conditions set forth in his provisional admission. The student will be excluded from further enrollment in the College of Business Administration if he fails to satisfy the conditions of his provisional admission.

GENERAL REGULATIONS

STUDENT RESPONSIBILITY: The student must assume full responsibility for registering for the proper courses and for fulfilling all requirements for his degree. He is also responsible for completing all courses for which he is registered.

Courses may be dropped through the offices of the Dean until the end of the third week of the quarter without petitioning. After the third week courses may be dropped or changed without penalty only through the offices of the Dean of the College (by petitions) and the Registrar.

Seniors must file formal application for a degree in the Office of the Registrar early in the quarter in which they expect to receive the degree. The official calendar shows the latest date on which this can be done.

NORMAL LOADS: The average course load in the College of Business Administration is 15 credit hours. A student may be permitted to register for additional hours if in the opinion of his academic adviser and the Dean, his academic record justifies this. Students who wish to take less than 12 hours should be aware that certain university privileges and benefits require a minimum registration. It is the student's responsibility to verify the minimum registration necessary for these benefits.

RESIDENCE: The last 45 quarter hours to be applied toward a degree must be completed in residence in the College of Business Administration. In special cases this requirement may be waived if the student has a 2.9 average or better, and his petition to take non-resident work has been approved in advance by the faculty of the College. In any case, no student may take more than nine quarter credit hours by extension or correspondence among the 90 quarter credits of upper-division work required for the baccalaureate degree; and such work must have prior approval for each individual student by the Petitions Committee of the College. However, courses to be included in the major field may not be taken by extension, by correspondence, or at another university for transfer.

SATISFACTORY-UNSATISFACTORY GRADE OTPION: An undergraduate student in the College of Business Administration may take on the S-U basis only those courses which will be counted as free electives in fulfilling the requirements for his degree.

PROBATION AND SUSPENSION: Students who do not make satisfactory academic progress may be excluded from further registration.

GRADUATION REQUIREMENTS:

To graduate from the College of Business Administration a student must satisfactorily complete the following:

1. 96 quarter hours of lower division requirement.

2. A College approved program in his major field of study.

3. Elective requirements outside the student's major field (a maximum of thirteen quarter hours may be specified by major department).

A minimum of 186 (193 for Accounting) quarter hours is

required for graduation. The waiving of any required course does not reduce the hours required for graduation. A student must maintain an overall average of 2.0 and a 2.0 average on all courses which count toward his upper-division degree requirements. (Accounting majors must also maintain a 2.0 average on all major course work.)

DEAN'S LIST AND GRADUATION WITH HONORS OR HIGH HONORS:

A student who carries 14 hours per quarter with a grade point average of 3.5 will have his name placed on the Dean's list for that quarter.

To graduate *With Honors,* a student must make at least a 3.2 average on all course work accepted as Upper Division credit *and* all course work (except as noted below) attempted while registered in the Upper Division. To graduate *With High Honors,* a student must make at least a 3.6 average on all work accepted as Upper Division credit *and* all course work (except as noted below) attempted while registered in the Upper Division. In calculating requirements for graduating *With Honors* or *With High Honors,* the following policies are followed: the student must have completed at the University of Florida at least 60 quarter hours for Upper Division credit toward a degree in Business Administration, transfer credits and S-U grade credits will be excluded; and credits for Lower Division courses taken while registered in the Upper Division will be excluded.

ADVANCED ACCOUNTANCY DEGREE

Upon completion of 45 quarter credits of advanced business subjects beyond the undergraduate level with an overall grade average of 2.0 (C), students will be awarded the professional accountancy degree AAB, Bachelor of Advanced Accountancy.

The purpose of this fifth year program is to offer specialized accounting training at an advanced level. The courses, while professionally oriented, are taught with a broad philosophical approach which is concerned not only with a thorough understanding of accounting principles and practices but also an appreciation of their interrelation with principles of other fields of business. Its objective is to provide the student with a depth of educational background both in accounting and other business subjects which will encourage him to continue career development in preparation for future leadership in the profession.

ADMISSION REQUIREMENTS:

Admission will be granted to graduates from a college or university with a grade point average of 2.7 (C+) or better and with the equivalent of a major in accounting, ordinarily, with the completion of from 36 to 45 quarter credits of accounting subjects. No entrance examination is required.

Practical business experience is not required for admission to the program but students having such a background will find that it enhances their professional study. Internship programs of three or four months are available and will add much to the professional development of the student.

CURRICULUM IN ADVANCED ACCOUNTANCY:

Course requirements of 45 quarter credits must include at least 22 quarter credits of advanced accounting subjects to be selected from 500 or 600 level accounting courses. At least 20 quarter credits of advanced business courses also are required. These are to be chosen to supplement the student's undergraduate work in business subjects related to the study of accounting.

Advanced business courses may be elected with the approval of the student's adviser from courses such as (but not limited to) the following:

BA 540 Computer Based Business Management
ES 531 Central Government Finance
ES 535 State and Local Finance
ES 543 Foreign Exchange and International Financial Institutions
ES 572 Economics of the Labor Market
FI 524 Investment Analysis
FI 528 Corporation Finance
FI 486 Estates, Trusts and Insurance
FI 590 Business Financial Management
MGT 570 Production Management Problems
MGT 471 Managerial Operations Analysis 2
MGT 472 Managerial Operations Analysis 3
MKG 531 Marketing Principles and Institutions

FLORIDA ACCOUNTANCY REQUIREMENT:

An approved one year post-baccalaureate business program with a major in accounting in addition to requirements to sit for the CPA examination will be accepted by the Florida State Board of Accountancy in lieu of the one year experience requirement for the CPA certificate.

GRADUATE DEGREES AND ADMISSION TO GRADUATE WORK

Courses are offered in the College of Business Administration leading to the degree of Master of Business Administration, Master of Arts, and Doctor of Philosophy. For requirements for these degrees and for admission to Graduate School, consult the *Graduate School Catalog.*

CURRICULUM IN BUSINESS ADMINISTRATION

The upper division curriculum in Business Administration requires 90 quarter credits (97 in the Accounting major). The program centers around a core which is required of all students. In addition, each student is required to select one of the eight major fields as an area of concentration. The pattern of the Upper Division requirements is as follows:

UPPER DIVISION CORE REQUIREMENTS

Courses	*Credits*
BA 300 Quantitative Methods for Business and Economic Analysis	5
*ES 301 National Income Determination and Policy	5
*ES 302 Prices and Markets	3
FI 326 Business Finance	4
MGT 310 Principles of Management	4
MKG 331 Principles of Marketing	4
Total Core Requirements	25

*Students majoring in Economics are required to register for ES 401 and ES 402 instead of ES 301 and ES 302.

OTHER UPPER DIVISION REQUIREMENTS

In addition to the upper division core just described, each student must follow the curriculum pattern indicated below:

MAJOR FIELD

Required courses are listed under the appropriate "major" headings, beginning in the next section. Minimum requirements range from 18 to 32 hours depending upon major.

FREE ELECTIVES

Electives may be within or outside the College of Business Administration, but must be outside the major field. A maximum of thirteen hours may be specified by major department. Maximum of 9 credits in Advanced Military Science may be counted toward free elective credit.... 37-47

I. ACCOUNTING

This curriculum is designed to provide background in the basic elements of accounting and to provide general

preparation for the three main areas of accounting: public, industrial, and governmental.

Required Courses	*Credits*
ATG 301-302 Intermediate Accounting	10
ATG 305 Cost and Management Accounting II	4
ATG 407 Income Tax Accounting	4
Accounting Electives	14-16
Total	32-34

Accounting electives may be selected from: ATG 401, ATG 405, ATG 408, ATG 409, ATG 418, ATG 498, ATG 504, ATG 505, ATG 507, ATG 517.

In addition to the core courses required of all business administration students, accounting majors are required to take CIS 302, Introduction to Computer Programming — 2 credits, BA 440, Computer Based Business Management — 4 credits, and BA 402, Business Law — 5 credits. Free electives — 29 credits. Total 97 credits.

Accounting majors intending to sit for the CPA examination are advised to become familiar with the Florida State Board of Accountancy educational requirements.

II. COMPUTER AND INFORMATION SCIENCES

This curriculum is designed to prepare students for technical and managerial positions in science in public and private organizations. The curriculum emphasizes three aspects pertinent to the student's professional career; the functions to which computers are applied in organizations, the professional skills for the design of computing applications, and the decision-making techniques for the efficient and effective utilization of computing resources.

Courses	*Credits*
CIS 406 Data Processing Languages	4
CIS 484 Info. Resources in Bus. and Economics	4
CIS 440 Introduction to Management Systems	4
Balance of 14 to 16 credits in courses numbered above CIS 311	14-16
Total	26-28

Students majoring in CIS are required to take the following courses:

ATG 418 Info. systems for Management Planning & Control	4
MGT 472 Managerial Operations Analysis III	4
Free electives in the College of Business Administration or elsewhere	29-31
Total	37-39

III. ECONOMICS

This curriculum is designed to provide students with a basic core of courses in Economics, while, at the same time, enabling them to select their electives from among a wide variety of courses adapted to their needs and interests.

The economics major is required to substitute ES 401 and ES 402 for ES 301 and ES 302 in the College of Business core program. In addition, the major must complete 18-28 credit hours of economic electives elected from courses numbered 300 or above. Three courses must be selected from the list below. At least two of these courses must be selected from Group I, but one course may be selected from Group II.

Group I	*Credits*
ES 321 Money and Banking	4
ES 341 International Economics	5
ES 400 Senior Seminar in Economics	3
ES 431 Public Finance	4
ES 455 Government Regulation of Business	5
Group II	
ES 410 Development of Modern Western Economy	5
ES 411 Development of Modern Western Economy	5
ES 414 United States Economic Development	5

For further information, contact a departmental adviser, Room 106, Matherly Hall.

IV. FINANCE

This curriculum is designed to give students a broad background in the business finance function with emphasis on analysis and the decision making process. The curriculum provides a general academic base in finance which can be useful for decision-makers in all aspects of business as well as more specialized courses that may be of interest to those students considering careers in commercial banking or other types of financial institutions.

Courses	*Credits*
*FI 421 Money and Capital Markets	4
FI 422 Investments	4
FI 427 Business Finance Topics	4
and two of the following four courses:	
*FI 420 Financial Management of Financial Institutions	4
*FI 424 Investment Analysis	4
*FI 428 Applied Business Finance	4
*FI 429 International Finance	4
Total	20

*Students are advised to complete the quantitative requirements before registering for these courses. The student is required to take the following courses as a part of "electives":

BA 401 or BA 402 Business Law	5
CIS 302 Introduction to computer Programming	2
and a minimum of four additional hours of Business Administration courses	4
Required Electives	11

V. INSURANCE

The primary objective of the curriculum in risk and insurance is an understanding of risk—its varied forms, sources, and methods of treatment. The orientation of the curriculum is the analysis, decision making, and comparative institutional choice inherent in the management of personal, commercial, and social risks.

The courses provide useful background for business and non-business majors alike, whose interests require an understanding of the nature of risk and its treatment. Students who major in this program would seek positions in the administration of risk management programs of business and government as well as positions in the insurance industry.

The major consists of a minimum of 18 credits in the field of risk and insurance and may not exceed 24 credits. The major must include FI 360, at least one course from both Group A and Group B, plus FI 496 for 2 credits.

	Credits
FI 360 Risk and Insurance	4
*FI 430 Independent Work	2
Group A:	
FI 365 Property and Liability Insurance 1	5
FI 366 Property and Liability Insurance 2	5
FI 487 Risk Management	5
Group B:	
FI 363 Life Insurance	4
FI 462 Group Insurance and Pension Plans	4
FI 464 Health Insurance	4
FI 486 Estates, Trusts, and Insurance	4
Total	18-24

*The independent work will consist of a research paper. Before registering for the course the student must submit a topic outline acceptable to a majority of the members of the insurance faculty.

Students majoring in insurance are required to take the following courses as a part of "electives":

	Credits
BA 401 or BA 402 Business Law	5
CIS 302 Introduction to Computer Programming	2
Required Electives	7

VI. MANAGEMENT

This curriculum is designed for students interested in overall management problems, industrial management, industrial relations or personnel management. By selection of appropriate courses, a student may obtain a solid basis for quantitative analysis of business and/or organizational behavior.

	Credits
MGT 355 Foundations of Organizational Behavior	4
MGT 410 Principles of Organization	4
MGT 450 Problems in Personnel Management	4
MGT 472 Managerial Operations Analysis 1	4
and *three* additional courses from among the following:	
MGT 430 International Management	4
MGT 455 Applications of Organizational Behavior	4
MGT 460 Collective Bargaining	4
MGT 470 Managerial Operations Analysis 1	4
MGT 471 Managerial Operations Analysis 2	4
MGT 480 Business Policies	4
MGT 481 Management Philosophy and Practice	4
TOTAL	28

Students majoring in Management are required to take the following course:

	Credits
CIS 302 Introduction to Computer Programming	2
and *one* of the following:	
PSY — 201 General Psychology	4
SY — 201 Principles of Sociology	4
APY — 200 Cultural Anthropology	5
Specified Electives	6-7

VII MARKETING

This curriculum is designed to develop an understanding of the marketing and distribution system for goods and services, the social and economic forces which act on that system and on the determinants of consumer choice behavior. The program emphasizes quantitative and social science approaches to marketing management and consumer behavior.

	Credits
MKG 352 Consumer Behavior	4
MKG 471 Marketing Research	4
MKG 431 Marketing Management	4
and *any three* or *four* of the following courses:	
MKG 362 Marketing Channels	4
MKG 421 International Marketing	4
MKG 441 Sales Management	4
MKG 451 Promotion Management	4
MKG 461 Retail Management	4
MKG 472 Advanced Marketing Research	4
MKG 481 Credit and Collections	4
MKG 491 Physical Distribution Management	4
MKG 493 Special Topics in Marketing	4
Total	24-28

Students majoring in Marketing are required to take the following course:

CIS 302 Introduction to Computer Programming	2
Required Electives	2

VIII REAL ESTATE

This curriculum is designed to prepare students as real estate analysts. With this background graduates can enter a real estate business, a real estate department of a regional or national firm, a financial institution, or a state or federal governmental agency. Many graduates enter a specialized branch of real estate such as appraising, investment analysis, consulting, property management, mortgage lending, or marketing. The program stresses the use of modern concepts and technology in the solution of practical real estate problems.

	Credits
RE 350 Real Estate Analysis	5
RE 440 Real Estate Law	4
RE 450 Real Estate Valuation	4
RE 460 Real Estate Investment	4
RE 470 Urban Land Use Analysis	4
RE 480 Real Estate Financial Analsis	4
Total	25

The student is required to take two courses from the following list, totaling at least 7 hours.

	Credits
APY 202 Anthropology and Modern Life	5
BCN 101 Construction Materials	4
CE 492 Engineering and Public Works	3
ES 581 Urban Economics	5
Prereq: ES 201-202 and permission.	
FRC 220 Introduction to Forestry	3
GPY 305 Geography of Florida	4
GPY 401 Air Photo Interpretation	5
Prereq: GPY 300, or permission.	
GPY 326 Urban Geography	4
MKG 352 Consumer Behavior	4
Prereq: MKG 331	
MKG 471 Marketing Research	4
Prereq: MKG 331, BA 300	
PCL 325 Urban Politics	5
Prereq: PCL 201	
Required electives	7-10

College of Dentistry

The College of Dentistry is one of the six colleges which constitute the J. Hillis Miller Health Center. The College of Dentistry, as well as the other units of the Health Center, is an integral component, both geographically and functionally, of the University of Florida. Many conjoint projects between the College and other units of the Health Center and University have been formulated and implemented.

The 1957 Florida Legislature authorized the development of a College of Dentistry in Gainesville, but it was not until the late 1960's that faculty members were recruited and program development initiated.

The thirteen departments which make up the College of Dentistry are Basic Dental Sciences, Community Dentistry, Dental Biomaterials, Dental Education, Endodontics, Occlusion and Fixed Prosthodontics, Operative Dentistry, Oral Medicine, Oral Surgery, Orthodontics, Pedodontics, Periodontics, and Removable Prosthodontics. A modular curriculum has been developed in which these several departments teach in a multidisciplinary fashion. The curriculum is so designed as to permit students the maximal degree in flexibility and individualization in their program. It is a competency based curriculum in which behavioral objectives, rather than time, serve as the primary guidelines for student advancement. Although there is no definite length of time in the curriculum, it is planned so that outstanding students should be able to complete the program in three calendar years. Self-instruction constitutes a significant part of the teaching methodology.

The institutional goals of this college are to prepare the graduate to enter private dental practice, to enter graduate programs of any of the dental specialties, to enter into research activities, and to be prepared for a lifetime of continuing education.

The first class of students enrolled in 1972. The Dental Sciences Building was first occupied in August, 1975, and was officially dedicated March 6, 1976. The College offers the Doctor of Dental Medicine (D.M.D.) degree. (The D.M.D. and D.D.S. degrees are synonymous.) The College presently offers Advanced Educational Programs (residencies) in Oral Surgery and Dental Public Health. However, several other residency programs are in the developmental stage and will be implemented as soon as possible.

The College of Dentistry aspires to attract students of the highest caliber into its various programs. High standards of scholastic achievement, moral character, and motivation are expected of the applicant. The student of dentistry must possess a high basic aptitude supplemented by an academic preparation of the highest order because of the vast area of science which must be mastered by the dentist. The highly personal relationship between patient and dentist places the latter in a position of trust, which demands maturity, integrity, intellectual honesty, and a sense of responsibility. A broad representation of the ethnic mixture of the state is sought in the student body through an active recruitment program. The College strictly adheres to the principle of ethnic, racial, religious and social equality among its student body and faculty.

Generally, students applying for admission should plan to complete the requirements for a bachelor's degree. However, qualified students may be accepted without fulfilling the degree requirements, provided they show evidence of sufficient academic preparation and the personal characteristics necessary for the study of dentistry. Applicants with an overall B average as a minimum will receive strongest consideration for admission to the College of Dentistry. A limited number of out-of-state students, in proportion to the number in the University as a whole, may be admitted. Applicants over the age of thirty rarely will be given strong consideration. Applicants should initiate the application process approximately fifteen months prior to anticipated enrollment by submitting an application through the centralized American Association of Dental Schools Application Service (AADSAS), P. O. Box 1003, Iowa City, Iowa 52240.

Further detailed information will be found in the College of Dentistry Bulletin. Copies may be obtained by writing to the Office of Admissions, College of Dentistry, University of Florida, Box J-445, JHMHC, Gainesville, Florida 32610.

College of Education

ADMINISTRATION AND SUPERVISION
COUNSELOR EDUCATION
FOUNDATIONS
GENERAL TEACHER EDUCATION
INSTRUCTIONAL LEADERSHIP AND SUPPORT
SPECIAL EDUCATION
SUBJECT SPECIALIZATION TEACHER EDUCATION

College of Education

GENERAL STATEMENT

The College of Education, a professional college, has as its purpose the preparation of qualified personnel for positions in service, leadership, and research in education.

The College has undergraduate programs leading to the preparation and certification of teachers in elementary education, secondary education, and K-12 programs in art, music, physical education and special education (mental retardation). Programs of study in guidance and counseling, school administration, and college teaching are available at the graduate levels only. Undergraduate students interested in these areas will usually complete their bachelor's degree in one of the teaching fields found on the following pages.

Class room teaching is only one of the many careers available to graduates from the College of Education. School administrators, supervisors, counselors, school social workers, school psychologists, attendance workers, speech therapists, and reading clinicians are among the many careers found in education. Other career opportunities for those having degrees in education are in the areas of development and distribution of educational materials, educational television, personnel work, counseling, foreign service, peace corps, as educational specialists and training officers in industry, and in educational research.

The University of Florida teacher education programs are designed to assist students with developing three broad areas of competence: (1) *general preparation* consisting of a background of liberal education; (2) the *professional sequence* consisting of work in psychological and social foundations of education, the school program, and internship or student teaching; and (3) the *teaching field* or specialization in the area of subject matter to be taught.

The College of Education is fully accredited by the National Council for Accreditation of Teacher Education. Graduates from approved programs in teacher education are granted certification to teach in thirty-one (31) states as a recognition of this accreditation.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Education encourage applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this College. It should be understood, however, that minimum requirements are given and that admission to this College is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record, including educational objectives, pattern of courses previously completed, quality of previous academic record, and test data, will be considered in evaluating an application for admission. Priority for admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

Limitations in available faculty and facilities have made it necessary that the College of Education establish quotas for the admission of new students in certain undergraduate programs. Therefore, eligible applicants will be considered for admission to the College of Education within established quotas.

University College Students: University College students should apply for admission to the College of Education during the quarter in which they are completing 96 hours of work. Applications should be filed in both the Registrar's Office and the Undergraduate Studies Office, Room 124, Norman Hall. Because of the increasing number of applications and because of limitations in staff and facilities, the College of Education limits the number of admissions to a prescribed quota. To be considered for admission to the College, students will be required to:

1. Complete one of the basic programs outlined in the University College section of the catalog under Education. University College students with transferred credit from other institutions will be required to take comprehensive courses according to the University College regulations.
2. Applicants presenting the best overall credentials in terms of grade point average and other predictive indices are given first priority. When quotas are filled, no additional students can be accepted.
3. Meet minimum standards of physical and mental health.
4. Have the approval of the Committee on Admission of the College of Education. The Committee will review the application of each candidate with respect to qualities considered to be essential for effective teaching. The student is expected to speak and to write the English language effectively.

Transfer Students:

A. From other upper division colleges, University of Florida

University of Florida students desiring to transfer from an upper division college to the College of Education must file applications with both the Registrar's Office and the Undergraduate Studies Office, Room 124, Norman Hall. To be considered for admission applicants will be expected to meet the requirements for admission outlined above for University College students.

B. From other institutions

To be eligible for admission to the College of Education, a transfer student must satisfy the minimum requirements for admission to an Upper Division College that are set forth in the ADMISSIONS section of the catalog. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Education:

1. Complete a personal data sheet for permanent records in the College of Education.
2. Meet general preparation requirements (See General Preparation section for College of Education).
3. Applicants presenting the best overall credentials in terms of grade point average and other predictive indices will be given first priority. When quotas are filled, no additional students can be accepted.
4. Meet minimum standards of physical and mental health.
5. Have the approval of the Committee on Admissions of the College of Education. The Committee will review the application of each applicant with respect to qualities considered to be essential for effective teaching. The student is expected to speak and write the English language effectively.

The following information will serve as a guide in expediting transfer of a junior college student to the College of Education in compliance with the above requirements. The junior college transfer student must:

1. Complete the Associate of Arts degree program at the junior college.
2. Complete the general education requirements established for the junior college.
3. Present a satisfactory academic record. Since quotas have been established in certain teaching areas, those students presenting the best overall records will be given first priority.
4. Avoid courses in professional education. All required professional education courses must be taken in the College of Education.

In addition to the above requirements, students are advised to:

5. Complete work in the following areas:

	Semester Hours
English Composition	6
Social Sciences	6
Humanities	8
*Mathematics	3
Science (to include work in both physical and biological sciences)	10

*Students planning to major in childhood education must have two courses in mathematics, to include at least one course specifically designed for elementary school teachers. If a student is unable to take a mathematics course for elementary teachers at the junior college, it may be taken after admission to the University. Under any circumstances, one mathematics course should be successfully completed at the junior college.

6. Choose elective courses to complete the required 64 semester hour total in the university transfer program in the basic areas of general or liberal education fields. Students majoring in secondary education may earn credit in their teaching field at the junior college in courses which are equivalent to the 100 and 200 level courses at the University of Florida. Students enrolling in the College of Education are not required to take a foreign language. Students who enroll in Teacher Education in the College of Arts and Sciences must satisfy the foreign language requirements of that College.

7. Complete a course in public speaking.

Provisional Admission: Due to limited faculty and facilities, the College is not able to accept all students who meet its minimum admission requirements. Therefore, the College does not provide provisional admission at the present time.

ADMISSION TO PHASES OF THE TEACHER EDUCATION PROGRAM

I. Admission to the Teacher Education Program for students enrolled in the College of Arts and Sciences.

Students in the College of Arts and Sciences who wish to enroll in a Teacher Education Program must make application for admission to the program. Application forms may be obtained in Room 113 Anderson Hall or Room 124 Norman Hall.

Application should be made as soon as possible after admission to the College of Arts and Sciences; application to the program cannot be made before a student has been accepted into the College of Arts and Sciences. The student must be admitted to the Teacher Education Program before he can apply for the Advanced Professional Sequence.

The criteria used in considering students from the College of Arts and Sciences for the Teacher Education Program will be the same as those used for admitting students into the College of Education.

II. Admission to the Advanced Professional Sequence.

A student who proposes to enter a Teacher Education Program, whether through the College of Education or one of the cooperating colleges, must be admitted to the Advanced Professional Sequence prior to enrollment in certain professional courses. For Childhood Education this is EDE 333; for K-12 Education programs this is EDE 400 and EDS 400; for Secondary Education this is EDS 400, and for Special Education this is at the time of enrollment for the second methods course.

Admission to the Advanced Professional Sequence requires:

1. A special application submitted to the Undergraduate Office, Room 124 Norman Hall, no later than one month prior to the proposed registration for the courses indicated above. Admission to the College of Education is not to be interpreted as automatic admission to the Advanced Professional Sequence.

2. Enrollment in an upper division college.

3. Completion of the general preparation requirements. (See General Preparation).

4. Completion of the speech requirement by successfully completing a public speaking course (SCH 201) or by passing the speech screening examination administered by the Speech Department. All English and Language Arts students must meet this requirement by completing the speech course.

5. A "C" average, or better.

6. A "C" average, or better, in specific professional courses and in the area of specialization.
Special Education majors, and Secondary Education majors in either the College of Education or the College of Arts and Sciences should note that no grade less than "C" meets a requirement in the professional education courses or in the field of specialization.

7. Students in Elementary Education and Early Childhood Education must complete successfully a reading screening examination.

III. Admission to Student Teaching in any Teacher Education Program

Assignments to student teaching for each quarter are made by the Undergraduate Studies Office in the College of Education. Students in the College of Education are assigned a quarter for student teaching when they are admitted to the College. Students from the College of Arts and Sciences are assigned a quarter for student teaching when they are admitted to the Teacher Education Program. Students in other colleges should see the Coordinator of Undergraduate Studies, Room 134 Norman Hall, for a student teaching quarter as early in their junior year as possible. Assignments are made on the basis of a quota which is usually filled at least one year in advance.

Prior to acceptance to student teaching in a Teacher Education Program, a student must have fulfilled the following requirements:

1. Have completed all general preparation requirements.

2. Have satisfied the speech requirement.

3. Have at least a "C" average in all course work at the University of Florida, the area of specialization courses, and professional education courses.Foreign Language majors must demonstrate proficiency in all languages for which they seek certification.

4. Have been admitted to the Advanced Professional Sequence and have completed the following work:

(a) Early Childhood Education — MSC 260 and 390; PHR 361 and 373; EH 491; EDE 311, 322, 333, and 344; and ED 480

(b) Elementary — MSC 260 and 390; PHR 361 and 373; EH 491; EDE 311, 322, 333, and 344; and ED 480

(c) Teaching Fields K-12 — EDF 345; EDE 400; EDS 400; at least two-thirds of the coursework in the teaching area in which student teaching is to be done and the following courses:

Art: SCA 401 and 402.

Music: MSC 367, 368, 369, 460, 461 or 462.

Special Education: EDH 300, SCH 304; EDH 310, 311, 400, 401, 402, 403, 404.

Physical Education: PHR 373 and 473.

(d) Secondary other than Business Education—At least 24 hours in education, including EDF 342, EDS 400, 403, and a methods course in the area of specialization, and at least two-thirds of the coursework in the teaching area in which student teaching is to be done.

(e) Business Education— EDF 342, EDS 400, 403, EDV 440 and 441 or 442, and at least two-thirds of the coursework in the area of specialization.

Students must make special application to the Director of Student Teaching, Room 146 Norman Hall. Applications must be received no later than October 1 for the Winter Quarter, January 10 for the Spring Quarter, and April 1 for the Fall Quarter.

Students have the responsibility for making arrangements to live in the community where student teaching is to be done and to assume living expenses in addition to regular on-campus expenses.

GRADUATION REQUIREMENTS

To graduate from the College of Education a student must satisfactorily complete the following:

1. 72 quarter hours of general preparation.
2. A College approved program in his major field of study.
3. Required professional education courses appropriate to his field of study.
4. Speech requirement.

A minimum of 188 quarter hours is required for graduation. A student must maintain at least a 2.0 overall grade point average and have at least a 2.0 average in all professional education courses and in his area of specialization. In the departments of Subject Specialization and Special Education, grades below "C" will not fulfill requirements in either professional education or in the area of specialization.

GENERAL PREPARATION

Seventy-two (72) quarter hours of credits in the area of general preparation are required of all students in a Teacher Education Program. Students must have earned a grade of "C" or above in 54 of the 72 credits.

The minimum requirements in general preparation for majors in Elementary and Early Childhood are:

	Quarter hours
Social Sciences: 5SC	9
English Composition: EH	9
Humanities: HUM	12
Physical Sciences: CPS and*	15
Biological Sciences: CBS	
Mathematics: MS 310-311	6
Electives in general preparation	21

The minimum requirements in general preparation for all undergraduate Education Programs other than Elementary Education and Early Childhood Education are:

	Quarter hours
Social Sciences: SSC	9
English Composition: EH	9
Humanities: HUM	12
Physical Sciences: CPS and*	15
Biological Sciences: CBS	
Mathematics: CMS	4
Electives in general preparation	23

*Five of the six comprehensive science courses or appropriate substitutes are required.

University College students making substitutions and using transfer credit from other institutions will be required to take comprehensive courses according to University College regulations. Students transferring into the upper division of the College of Education as Juniors and Seniors are expected to have completed comparable comprehensive courses or to have taken appropriate substitutes.

PROFESSIONAL EDUCATION

Early Childhood Education Programs Include:	*Credits*
EDE 311, 322, 333, 344, 355	50
EDE 405	16
ED 480	4

Elementary Programs Include:	
EDE 311, 322, 333, 344, 355	50
EDE 405	16
EDE 480	4

Special Education (Mental Retardation) Programs Include:	
EDF 345	5
EDF 300 or EDF 320 or EDF 410 or EDF 431	5
EDH 300, 310, 311, 400, 401, 402, 403, 404	35
EDH 405	16

Music Education Programs include:	
EDF 341 or EDE 342 or EDE 345	5
EDF 300 or EDF 320 or EDF 410 or EDF 431	5
EDE 400 and EDS 400	9
EDE 405 and EDS 405	16

Other Kindergarten through Twelfth Grade Programs Include:	
EDF 345	5
EDF 300 or EDF 320 or EDF 410 or EDF 431	5
EDE 400 and EDS 400	9
EDS 405 (Physical Education) (Art)	16
EDH 300 and EDS 414 (Speech Therapy)	8

Secondary Education Programs Include:	
EDF 342	5
EDF 300 or EDF 320 or EDF 410 or EFDF 431	5
EDS 400	5
EDS 403 and an appropriate methods course	9
EDS 405 or EDV 405	16
Elective in Education (College of Education students only)	3-5

ACADEMIC ADVISORY SERVICES

To assist students in their educational and vocational planning the College of Education maintains an Advisory Panel composed of faculty members representing the various teaching fields. In addition to the Advisory Panel other advisory facilities in the College of Education include the Graduate and Undergraduate Office, and the Placement Service in the Reitz Union.

GENERAL REGULATIONS

PLANNED PROGRAMS

Before the end of the first term of enrollment in the College of Education, the students should plan a program for the remainder of work required for his degree. All planned programs must have the approval of the student's counselor and the Coordinator of Undergraduate Studies.

Each student is responsible for registering for the proper courses and fulfilling all requirements for his degree. Courses can be dropped or changed without penalty *only* upon approval of the counselor, the Undergraduate Studies Office, and the Registrar.

LOADS

Sixteen quarter hours is considered a normal load. A student may be permitted to register for additional hours if, in the opinion of his counselor, the quality of his record justifies this. At the time of registration, a student, with the approval of his counselor, may register for less than sixteen quarter hours if conditions warrant this.

DEADLINES

Graduating Seniors must file an application for a degree in the Office of the Registrar early in the quarter in which they expect to receive the degree. The University calendar shows the latest date on which this can be done.

Students applying to enter the Advanced Professional Sequence must file an application in the Undergraduate Studies Office 30 days prior to registration in these courses.

Student teaching applications are available from the Director of Student Teaching, Room 146, Norman Hall and are due October 1 for Winter student teaching, January 10 for Spring student teaching, and April 1 for Fall student teaching.

RESIDENCE

The last 45 quarter hours to be applied toward a degree must be completed in residence in the College of Education. In special cases this requirement may be waived by petition when a student has completed most of his previous work in upper division of the College of Education.

No part of the teacher preparation program can be taken by correspondence, home study, or extension unless such courses have been planned with the student's upper division counselor and approved by the Undergraduate Studies Office. In addition to these requirements University regulations pertaining to correspondence and extension work apply to College of Education students.

PETITIONS

If a student feels that the College regulations cause a peculiar hardship or injustice in his case, he may petition for waiver of the particular regulation. The student should contact his adviser or the Undergraduate Studies Office regarding procedure.

STUDENT HANDBOOK

The University publishes a bulletin entitled *Student Handbook* which contains information and regulations important to all students. Each student should become familiar with this publication which may be obtained from the Office of Student Affairs.

UNDERGRADUATE REGISTRATION IN GRADUATE COURSES

With the permission of the instructor, an undergraduate student in the College of Education may enroll in 600 level courses if he has Senior standing and an upper division grade point average of at least 2.8. His registration during any term for which he is enrolled in a graduate course may not exceed 17 hours. Graduate fees are charged for 500 and 600 level courses.

MUSIC ENSEMBLE CREDIT

Undergraduate majors in education may count only 6 hours of music ensemble credit toward graduation.

DEGREES OFFERED

The degrees Bachelor of Arts in Education and Bachelor of Science in Education are offered in the College of Education. The Bachelor of Science in Education Degree is granted to students whose area of specialization is in science, mathematics, or business education; other curricula lead to the Bachelor of Arts in Education Degree.

HONORS

To graduate from the College of Education with honors, the student will be required to earn on all college work an academic average of 3.2 for honors and an average of 3.5 for high honors. He must have earned at least 90 credits, with the appropriate average, at the University of Florida. Kappa Delta Pi (men and women) and Pi Lambda Theta (women) are honor societies in education. Membership is by invitation.

SCHOLARSHIP AND LOANS

The Undergraduate Studies Office has information about very limited scholarship and loan funds available in the College of Education. Information regarding other financial aid for undergraduate students may be obtained from the Office of Student Financial Aid.

TEACHER CERTIFICATION

Applications for Florida teacher certification are available in the Undergraduate Studies Office, 134 Norman Hall.

ART EDUCATION

Florida teachers are certified to teach art in kindergarten through the twelfth grade. Students may enroll in either the College of Architecture and Fine Arts or the College of Education.

Students should complete ART 101-102 — Beginning Design, ART 103-104 — Beginning Drawing and Painting, ART 205-206 — Intermediate Drawing and Painting, ART 207-208-209 Introduction to the Principles and History of Art while in University College.

JUNIOR YEAR

Courses	*Credits*
Art 260 Lettering	4
Art 280 Beginning Ceramics	4
EDF 345 Human Growth and Development	5
EDF 300,320,410, or 431	5
SCA 401 Professional Studies in Art Education	5
*Art Electives	8
EDE 400 Elementary School Today	4
EDS 400 Secondary School Today	5
	40

SENIOR YEAR

Courses	*Credits*
SCA 402 Professional Studies in Art Education	5
SCA 403 Professional Studies in Art Education	6
EDE 405 The Practicum; K-12	16
Art 357 Sculpture	4
*Art Electives	9
Art 355 Printmaking	4
	44

*Art electives must include such advanced courses as are necessary to complete state certification requirements and must include a minimum of three closely related courses in a single advanced area (fine arts, crafts, advertising design, etc.)

AUDIOLOGY AND SPEECH PATHOLOGY

Students desiring to specialize in Audiology and Speech Pathology may enroll in either the College of Arts and Sciences or the College of Education. The undergraduate program is pre-professional and requires a minimum of 62 quarter hours of Speech. No grade below "C" meets a requirement in this program.

Required Courses	*Credits*
SCH 201, 206, 208, 212, 224, 301, 304, 309	30
SCH 450, 451, 452, 453	8
SCH 462	4
SCH 474	4
SCH 440, 441, 460, 461	4
STA 310	4
SCH 280, 384, 385, 386, 390, 491, 494	8-10
Total	62-64

Information about the Audiology and Speech Pathology programs may be obtained through the Department of Speech, 442 Arts and Sciences Building, or the Office of Undergraduate Studies, 134 Norman Hall. Students in the College of Arts and Sciences must confer with their adviser prior to admission to the Division of Audiology and Speech Pathology.

To qualify for the Certificate of Clinical Competence in Audiology or in Speech Pathology awarded by the American Speech and Hearing Association or to obtain endorsement by the College of Education and the Department of Speech for the State Department of Education certification in Speech Correction or Hearing Disabilities, it is necessary to complete a master's degree or equivalent.

BUSINESS EDUCATION

(Broad Field).

In addition to completing all general preparation requirements, students should complete, while registered in the University College, as many of the following courses as possible: ATG 201, Elementary Accounting; ES 201-202 or ES 203-204-205, Basic Economics. Any of these courses not completed in the University College must be taken in the upper division. A total of 62 quarter hours in the teaching field is required.

Basic competencies in shorthand and typewriting are required for this program. Students anticipating entering this area should contact the Undergraduate Counseling Office in Room 124, Norman Hall, or the section chairman of business education regarding more details relative to the shorthand and typewriting competencies.

No course in which the grade is below "C" meets a requirement in this program.

JUNIOR YEAR

Courses	*Credits*
*EDV 345 Office Procedures for Teachers	4
*EDV 346 Office Machines and Data Processing for Teachers	4
*EDV 446 Competencies in Business Education	4
BA 401 or 402 Business Law	5
FI 322 Financial Institutions	5
EDF 342 The Adolescent	5
EDF 300 History of Education in the United States	5
or	
EDF 320 Social Foundations of Education	
or	
EDF 410 Philosophy of Education	
or	
EDF 431 Comparative Education	
EH 303 Business Communications	4
Electives in Teaching Field	9
	Total 45

*Taken as a block

SENIOR YEAR

Courses	*Credits*
EDS 400 The Secondary School Today	5
*EDS 403 Secondary School Curriculum and Organization	4
*EDV 440 Principles of Business Education	4
*EDV 441 Methods and Materials for Teaching Office Education Subjects	4
*EDV 442 Methods and Materials for Teaching Bookkeeping and Basic Business Subjects	4
EDV 405 Student Teaching in Vocational, Technical, and Adult Education	16
BA 403 Business Law	4
EDV 302 Principles of Vocational Education	4
Electives in Teaching Field	4
	Total 49

*Taken as a block

BUSINESS EDUCATION

(Bookkeeping and Basic Business Subjects)

In addition to completing all general preparation requirements, students should complete, while registered in the University College, the following: ES 201-202 or ES 203-204-205, Basic Economics, and ATG 201-203, Elementary Accounting. A total of 62 quarter hours in the teaching field is required. No required course in which the grade is below "C" meets a requirement in this program.

JUNIOR YEAR

Course	*Credits*
FI 322 Financial Institutions	5
EDF 342 The Adolescent	5
EDF 300 History of Education in the United States	5
or	
EDF 320 Social Foundations of Education	
or	
EDF 410 Philosophy of Education	
or	
EDF 431 Comparative Education	
BA 401 or 402 Business Law	5
FI 360 Risk and Insurance	5
*EDV 345 Office Procedures for Teachers	4
*EDV 346 Office Machines and Data Processing for Teachers	4
*EDV 446 Competencies in Business Education	4
Electives in Teaching Field	10
	Total 47

*To be taken as a block

SENIOR YEAR

Courses	*Credits*
EDS 400 The Secondary School Today	5
*EDS 403 Secondary School Curriculum And Organization	4
*EDV 440 Principles of Business Education	4
*EDV 441 Methods and Materials for Teaching Office Education	4
*EDV 442 Methods and Materials for Teaching Bookkeeping and Basic Business Subjects	4
EDF 405 Student Teaching in Vocational, Technical and Adult Education	16
BA 403 Business Law	4
Electives in Teaching Field	5
	Total 46

*To be taken as a block

GENERAL TEACHER EDUCATION

The Early Childhood Education and Elementary Education Programs are innovative approaches to the professional preparation of educators. The program is based upon four major assumptions: that a person learns best when (1) learning is made personally meaningful and relevant, (2) learning is adjusted to the rate and needs of the individual, (3) there is a great deal of self-direction, and (4) there is a close relationship between theory and practice.

Aside from the 20 quarter hours of required courses listed below which are taken outside the College of Education, there are no courses as such in the Early Childhood Education and Elementary Education Programs. Instead, each quarter in the program, the student enrolls in the appropriate section of professional studies in education (EDE 311, 322, 333, 344, or 355), for a variable number of hours to total 50 by the completion of the program. In addition, the student will register for a total of 16 quarter hours in EDE 405 — Student Teaching in the Elementary School.

Each quarter the professional studies will comprise participation in a *seminar* — a small discussion group which gives continuity and direction to the program by providing students with a place to share their meanings and problems in interaction with their peers while building a personal educational belief system; b) *study of content* selected from among the following areas (each of which must be mastered by graduation) curriculum, language arts, math, reading, science, social studies, art, human growth and development, music and social foundations. In each area, students pace their own progress, attend special lectures, participate in small study groups or workshops, and pursue independent study; c) *an appropriate field experience* carried out in a local public or private school or community agency.

Students' work within the program is graded on a Satisfactory-Unsatisfactory (S-U) basis. The student continues his work in a given learning area until he demonstrates satisfactory competence in the area.

EARLY CHILDHOOD EDUCATION

(Nursery School and Kindergarten)

The program in Early Childhood Education will provide academic and field learning activities which place emphasis on the years between three and six, but extending downward to infancy and upward to age eight, including the areas of pre-natal, parenting and family development education. The six-quarter professional program for early childhood education includes:

	Credits
1) Professional Studies in Education (EDE 311, 322, 333, 344, 355)	50
2) EDE 405 — Student Teaching in the Elementary School	16
3) ED 480	4
4) Courses taken outside the College of Education:	
MSC 260 - Music Skills	4
MSC 390 Music for the Elementary Child	5
PHR 373 Teaching Physical Education in the Elementary School	3
PHR 361 Elementary School Health Program	4
EH 491 Children's Literature	4
	20

4) Additional elective hours as necessary to meet the graduation requirement of 188 quarter hours, and to have at least 122 quarter hours outside the Childhood Education Program.

ELEMENTARY EDUCATION

(Grades one through six)

The program in Elementary Education will provide academic and field learning activities which place emphasis on the development and teaching of the child from age six through age twelve.

The six quarter professional program for elementary education includes:

	Credits
1) Professional Studies in Education (EDE 311, 322, 333, 344, 355)	50
2) EDE 405 Student Teaching in the Elementary School	16
3) ED 480	4
4) Courses taken outside the College of Education:	
MSC 260 Music Skills	4
MSC 390 Music for the Elementary Child	5
PHR 373 Teaching Physical Education in the Elementary School	3
PHR 361 Elementary School Health Program	4
EH 491 Children's Literature	4
	20

5) Additional elective hours as necessary to meet the graduation requirement of 188 quarter hours, and to have at least 122 quarter hours outside the Childhood Education Program.

LANGUAGE ARTS

This is a joint program with the College of Arts and Sciences and leads to certification in English, Speech and if the student chooses, Journalism. The student may choose an English, Speech or Drama emphasis. Nine hours of Journalism course work will add Journalism to the professional certificate. No course in which the grade earned is below "C" meets a requirement in this program.

English emphasis: Required are a minimum of 39 hours in English and 28 to 29 hours of Speech, depending on the choice of courses.

Speech emphasis: Required are a minimum of 36 to 37 hours of Speech, depending on the choice of courses, and 27 quarter hours of English.

Drama emphasis: Required are a minimum of 40 to 45 hours of Speech, depending on the choice of courses, and 27 quarter hours of English.

REQUIRED COURSES:

	Emphasis	Minor
English		
English Literature — Survey* EH 220, 221, 222, 223	8	
American Literature** EH 271, 272, 309, 371, 372, 471, 473, 474	8	
Shakespeare EH 431, 432	4	
Period Courses*** EH 310, 436 or 437, 441 or 442, 451, or 452, 461 or 462, EH 421	8	
English Language Study EH 304, 305, 401, 402	8	4
Advanced Composition**** EH 301, 329, 330, 391, 404	3	3
Approved EH electives		20
	39	27

*In exceptional cases, one or both of the survey courses may be waived if the counselor deems the student's background to be adequate but the total number of hours in English may not be lowered.

**One of these courses should be in contemporary American literature; otherwise, an additional course must be taken from among the following: EH 310, 311, 312, 314, 317, 372, 417, 418.

***In exceptional cases other EH courses may be substituted for the period courses with the counselor's approval.

****JM 201 may be used by Education majors, but not by Arts and Sciences majors, to satisfy the advanced composition requirement, but the total number of hours in English may not be lowered.

Speech	Emphasis	Minor
SCH 201 or 312	4 to 5	4 to 5
SCH 224 or THE 225	3 to 4	3 to 4
SCH 301 or 362 or 364	4	4
SCH 304	3	3
SCH electives	12	8
SCH 419	4	
THE 438 or 439	4	4
	34 to 36	26 to 28

	Drama Emphasis
SCH 201 or 312	4 to 5
SCH 224 or 225 or THE 225 or THE 226	4
SCH 301 or 362 or 364	4
SCH 304	3
THE 324, 325, 326	8
THE 320, 329	4 to 8
THE 323 or 326	4
SCH 419 or THE 438	4
THE 439	4
Total	38-44

Journalism	
JM 201	4
JM 515	5
Total	9

Colleges

COLLEGE OF EDUCATION

ENGLISH SPECIALIZATION

This is a joint program with the College of Arts and Sciences and leads to certification in the single subject of English at the secondary level. Basic requirements include a *minimum of 39 quarter hours* of English and 8 quarter hours of Speech above the basic general education requirements. Additionally, 16 quarter hours of electives to complement the major in English are required. The electives may include additional English course work. No course, either required or approved elective, in which the grade earned is below "C" meets a requirement in this program.

REQUIRED COURSES:

	Credits
*English Literature — Survey EH 221, EH 222	8
**American Literature EH 271, 272, 309, 371, 372, 471, 473, 474	8
Shakespeare EH 431, 432	4
***Period Courses EH 310, EH 436 or 437, 441, or 442, 451 or 452, 461 or 462, 421	8
English Language Study EH 304, 305, 401, 402	8
****Advanced Composition EH 301, 329, 330, 391, 404	3
Total	39

*In exceptional cases, one or both of the survey courses may be waived if the counselor deems the student's background to be adequate, but 39 hours of English are still required.

**One of these courses should be in contemporary American literature; otherwise, an additional course must be taken from among the following: EH 310, 311, 312, 314, 317, 372, 417, 418.

***In exceptional cases, other EH courses may be substituted for the period courses with the counselor's approval.

****JM 201 may be used by Education majors, but not by Arts and Science majors, to satisfy the advanced composition requirement, but 39 hours of English are still required.

Speech

	Credits
SCH 201 or 312	4-5
SCH Elective	4

(Normally SCH 224 or THE 225 is the most appropriate choice and should be scheduled unless there is a definite reason for selecting another course.)

Approved electives: Not more than two courses in foreign language may be used to satisfy this requirement..... 16

ENGLISH-RELIGION

This is a joint program with the College of Arts and Sciences for certification for secondary school teaching in English and Religion. Students may enroll in either the College of Education or the College of Arts and Sciences. No course in which the grade earned is below "C" meets a requirement in this program.

ENGLISH MAJOR

Same as courses required in English Specialization program.

RELIGION MINOR

Courses totaling 24 hours in Religion, encompassing work in (a) World Religions; (b) Bible (c) History of Religion in the West; and (d) Religion in America. Typically this would be fulfilled by choosing a suitable distribution among the following: (a) RN 321-322; (b) RN 340, 341, 342, 343, 344; (c) RN 323, 351, 353; (c) RN 326, 357, 358, 374. Depending on the student's total academic program, other RN courses may be substituted with approval of the student's adviser.

FOREIGN LANGUAGE

This is a joint program with the College of Arts and Sciences and leads to certification in a foreign language. Students may enroll in either the College of Education or the College of Arts and Sciences.

Basic requirements for certification in a single modern foreign language include a minimum of 36 quarter hours above the second year college level, plus FLE 301 or FLE 351, making a total of 40 quarter hours. Course work should include the following areas: conversation, grammar and composition, linguistics, culture, and literature.

Students who wish certification in a second foreign language must complete 27 quarter hours in that language. No course in which the grade earned is below "C" meets a requirement in this program.

HEALTH EDUCATION/DRIVER AND SAFETY EDUCATION

This is a joint program with the College of Physical Education, Health and Recreation and is designed to prepare students (1) to become teachers of health and related health sciences; and (2) to serve as coordinators of school health education programs.

Admission: In addition to general education requirements for health education majors specified in the University College, students should have completed the following courses while registered in the lower division:
PHR 261 Individual and Family Health, 5 credits
PHR 262 Community and Environmental Health, 4 credits
PHR 266 First Aid and Personal Safety, 3 credits
No course in which the grade earned is below "C" meets the program requirements.

JUNIOR YEAR

	Credits
PHR 310 Health Education and Medical Terminology	3
PHR 359 School and Community Safety Education	3
PHR 361 Elementary School Health Program	4
PHR 365 Applied Anatomy	4
PHR 366 Applied Physiology	4
PHR 380 Public Health Field Experience	4
EDF 345 Human Growth and Development	5
EDF 320 Social Foundations of Education	5
MCY 300 Microbiology	5
Approved Electives in Health Education	12
Total	49

SENIOR YEAR

	Credits
PHR 362 Health Education in Secondary Schools	4
PHR 462 Drug Education	3
PHR 463 Sex Education in the Schools and Community	3
PHR 465 Consumer Health Protection and Quackery	3
EDE 400 The Elementary School Today	4
EDS 400 The Secondary School Today	5
EDS 403 Secondary School, Curriculum and Organization	4
EDS 464 Special Methods for Teaching Science	5
Approved Electives	4
EDS 405 Student Teaching	16
Total	51

CERTIFICATION IN DRIVER EDUCATION AND SAFETY EDUCATION

The following courses are provided for those wishing to add Driver and Safety Education to their Florida Teaching Certificate:
PHR 359 School and Community Safety Education, 3 credits
PHR 451 Driver and Traffic Safety Education, 4 credits
PHR 452 Teaching Driver and Traffic Safety Education, 4 credits

MATHEMATICS

This is a joint program with the College of Arts and Sciences. Students may enroll in either the College of Education or the College of Arts and Sciences. No course in which the grade earned is below "C" meets a requirement in this program.

REQUIRED COURSES

	Credits
MS 301, 302, and 303	15
MS 320 and 321	6
MS 325 and 326, or 431 and 432	6

ELECTIVE COURSES:

ISE 350 or CIS 311, STA 320 or 401 or 440, MS 313, 322, 324, 400, 401, 402, 405, 433, and other mathematics courses chosen with the advice of the counselor	13
Total	40

MIDDLE SCHOOL EDUCATION

The Middle School Education Program is a 16 quarter hour block composed of ED 601, 4 quarter hours and ED 604, 12 quarter hours. Upon successful completion of the program, students will be eligible for Middle School certification in one of the following areas: Language Arts, Mathematics, Science, or Social Studies.

Students interested in Middle School Education should be aware of the extensive prerequisites to this program. These prerequisites include:

1. A course in Reading
2. The successful completion of an undergraduate program in Early Childhood, Elementary, or Secondary Education.
3. At least 15 Quarter hours beyond general preparation requirements in Language Arts, Mathematics, Science or Social Studies.

Specific subject area requirements include:

LANGUAGE ARTS

Grammar: One course from among EH 304, 305, 402
Composition: One course among EH 301, Jm 201.

One course from each of two of the three following areas:

1. EH 272, 309.
2. EH 345, 492.
3. SCH 224, 301, 312.

MATHEMATICS

Required: MS 310, 311, 312, 316, 317.
Electives: MS 211, 307, 313, 405, CIS 301, STA 310, 320, 401.

SCIENCE

Chemistry, CY 201 or 202 or 203 or 204 or 211, or 212 or 213.
Biology: BTY 181 or 203 or ZY 201 or ZY 202.
Physics: PS 120 or 200.
Geology: GY 201 or 202.

SOCIAL STUDIES

At least one survey course in American History.

At least one survey course in the history of one of the following world areas: Western Europe, Russia, Africa, Latin America, Asia.

At least one course from each of two of the following Areas: Anthropology, Political Science, Geography, Sociology, Economics, Social Psychology.

Additional information about the Middle School Program can be obtained in Room 134, Norman Hall.

MUSIC EDUCATION

The College of Education and the College of Fine Arts offer a joint program leading to certification in music education for teaching in kindergarten through twelfth grade. Students may enroll either in the College of Education or the College of Fine Arts.

Students should complete MSC 101, 102, 103, 104, 105, 106, 201, 202, 203, 204, 205, 206 — Theory of Music, six credits in ensemble, and eighteen credits in applied music above the 100 level while in the University College.

Piano Skills MSC 71-76 must be taken each quarter until piano proficiency examination is passed; requirement must be met before application for Student Teaching.

JUNIOR YEAR

Music Performance Area	*Credits*
Applied Principal, including recital	6
MSC 076, Piano Skills	1
MSC 277, 279, 281, Instrumental Skills	6
Ensemble	3
Courses	
MSC 317, 318, 319, History of Music	12
MSC 367, 369, Music Education	10
EDF 341, 342 or 345 Education	5
Three courses from CPS 121, 122, 123; CBS 261, 262, 263	9
Total	52

SENIOR YEAR

Music Performance Area	*Credits*
MSC 275, Percussion Skills	2
MSC 405, Conducting	4
Courses	
MSC 460 or 461 or 462 or 463, Materials and Administration	4
EDF 300 or 320 or 410 or 431 Foundations of Education	5
EDE 400, Elementary School Today	4
EDS 400, Secondary School Today	5
CMS 171 and approved electives in science	10
Teaching Internship	
EDE 405, EDS 405, Student Teaching	16
Total	50
Total minimum credits	198

PHYSICAL EDUCATION

The College of Education and the College of Physical Education, Health, and Recreation offer joint programs to prepare men and women physical education teachers. While enrolled in the University College all students should complete as many as possible of the following courses:

MEN: PHR 100, 101, 126, 201, 202, 203, 205, 207, 224, 225, 261, 266, SCH 312 or SCH 201.

WOMEN: PHR 111, 113, 114, 126, 210, 217, 220, 224, 225, 231, 232, 261, 266, SCH 312 or SCH 201.

JUNIOR YEAR — MEN AND WOMEN

Course	*Credits*
PHR 365 — Applied Anatomy	4
PHR 366 — Applied Physiology	4
PHR 371 — Foundations of Physical Education	3
PHR 373 — Physical Education in the Elementary School	3
PHR 375 — Adapted Physical Education	2
EDF 320 — Social Foundations of Education	5
EDF 345 — Human Growth and Development	5
Total	26

JUNIOR YEAR — MEN

Course	*Credits*
PHR 204 — Baseball	2
PHR 231 — Folk and Social Dance	3
Electives — Second Teaching Field	19
Total	24

JUNIOR YEAR — WOMEN

Course	Credits
PHR 312 — Basketball for Women	2
PHR 313 — Officiating for Women	2
PHR 332 — Dance Composition	2
Second Teaching Field and Other Electives	18
Total	24

SENIOR YEAR — MEN AND WOMEN

Course	Credits
PHR 471 — Administration of Physical Education and Athletics	5
PHR 473 — Physical Education in the Secondary School	5
PHR 484 — Measurement and Evaluation in Physical Education	3
EDE 400 — The Elementary School Today	4
EDS 400 — The Secondary School Today	5
EDS 405 — Student Teaching	16
Second Teaching Field and Other Electives	12
Total	50

PSYCHOLOGY EDUCATION

The Psychology specialization leads to the certification to teach Psychology at the high school level. Students may enroll in either the College of Education or the College of Arts and Sciences. No course in which the grade earned is below "C" meets a requirement in this program.

	Credits
PROFESSIONAL EDUCATION REQUIREMENTS:	
EDF 342	5
EDF 300 or 320 or 410 or 431	5
EDS 400	5
EDS 403	4
EDS 444	5
EDS 405	16
PSYCHOLOGY REQUIREMENTS:	Credits
A. Introductory Level	
PSY 201	4
B. Foundation Level	
Two courses from the following:	
PSY 334, 320, 371, 377	8
Two courses from the following:	
PSY 303, 313, 345	8
STA 320	4
C. Intermediate and Advanced Level	
PSY 300, 400 and 500 level courses	minimum 12

Other Requirements:

A. 21 hours of History including two courses of U.S. History other than HY 252 and 253, and two courses other than U.S. History.

B. A course in each of two other fields from among the fields of Anthropology, Economics, Political Science, Geography and Sociology.

SCIENCE EDUCATION PROGRAMS
BIOLOGY

The biology specialization leads to certification to teach biology at the high school level. Students may enroll in either the College of Education or the College of Arts and Sciences. No course in which the grade earned is below "C" meets a requirement in this program.

Course	Credits
Mathematics:	
MS 301:	5
Biology:	
*BTY 181, 182 and ZY 201 or	
**ZY 201, 202 and BTY 203	12-14
***BTY 310 or ZY 574	4-5
BTY 342 and ZY 308, or ZY 306 and 308	8-10
BTY 301, BTY 501 or ZY 405	5
AY 362, 363 or ZY 325	5
MCY 300 or MCY 302	5
Chemistry:	
***CY 201, 202, 203, 204 or CY 211, 212, 213 or CY 231, 232	10-12
BTY 370 or CY 362, 363	5
Physics:	
PS 120 or PS 211, 212, 213, 221, 222 and 223	6-15
Total	66 to 78

Recommended Electives: ZY 306, 307, 308, 310, 321, 574; EY 300; BCH 411, 412, 513; BLY 305; GY 201, 202.

*Transfer students with a year of Biology should not take BTY 181.

**ZY 201 and CY 202 or 211 are prerequisites for ZY 202.

***CY 201 does not count in total credits required in this program.

CHEMISTRY

The chemistry specialization leads to the certification to teach chemistry at the high school level. Students may enroll in either the College of Education or the College of Arts and Sciences. No course in which the grade earned is below "C" meets a requirement in this program.

Course	Credits
Mathematics: MS 301, 302	10
Chemistry:	
*CY 201, 202, 203, 204 or CY 211, 212, 213 or CY 231, 232, 330	12-15
CY 362, 363, or CY 381, 382, 384, 385	6-10
CY 341, 342, 343	8
**CY 331	5
Physics:	
PS 211, 212, 213, 221, 222, 223, or PS 215, 216, 217, 225, 226, 227	12-15
Total	53-60

Recommended Electives:

MS 303, 304, 305; GY 201, 202; PS 330, 340, 440, 445; CY 431, 432; ASC 341, 502, 503.

*CY 201 does not count in major requirements.

**CY 331 not required if student takes CY 330.

EARTH SCIENCES IN THE JUNIOR HIGH SCHOOL

This specialization prepares teachers to teach the earth sciences and general science in the junior high school. Students may enroll in either the College of Education or the College of Arts and Sciences to pursue their degree. No grade less than "C" meets a requirement in this program.*

Course	Quarter Hours
Mathematics:	
MS 102	5
**Geology:	
GY 201, 202, and five of the following: GY 392, GY 400, GY 407, GY 408, GY 409, GY 418, GY 421, GY 427, GY 465, GY 470	28
MTY 200, 300; ATY 141, 241, 242, 300, 316, 317	8-10
Physics:	
PS 120	6
Chemistry:	
CY 101, 102, or CY 201, 202, 203 or CY 211, 212	8 to 12
Total	55 to 61

Recommended Electives: MTY 301, GY 501, CY 204, CY 213.

*Students taking this program will take chemistry & physics instead of CPS 121, 122, and 123.

**This major in Geology is a Science Education major, not a Professional Geology major.

PHYSICS

The Physics specialization leads to the certification to teach Physics at the high school level. Students may enroll in either the College of Education or the College of Arts and Sciences. No course in which the grade earned is below "C" meets a requirement in this program.

Course	*Credits*
Mathematics:	
MS 301, 302, 303	15
Chemistry:	
*CY 201, 202, 203, 204 or CY 211, 212, 213	12
Physics: **	
PS 215, 216, 217, 225, 226, 227	12
PS 300, 310, 330, 340, 415, 445	16
PS 400, 410, 430, 440; ATY 241, 242, 300, 316, 317	6
Total	61

Recommended Electives: Any course in Physics at the 400 or 500 level not used to satisfy the above programs, MS 305, GY 201, 202.

*CY 201 does not count in total credits required in this program.

**This major in physics is a Science Education major, not a Professional Physics major.

SOCIAL STUDIES SPECIALIZATION

This is a joint program with the College of Arts and Sciences. Students may enroll in either the College of Education or the College of Arts and Sciences.

A minimum of 63 hours in social science beyond the basic general education course is required. No course in which the grade earned is below "C" may be counted in these 63 hours.

A student may elect to concentrate in one of the following social sciences: anthropology, economics, geography, history, political science, or sociology. For those majoring in a field other than history, 20 hours of history are required. The student who elects the program outlined below will be eligible for teacher certification in social studies if his distribution includes credit in at least four separate social studies subjects. A student should plan a program, in consultation with his adviser, which includes the following minimum requirements:

	Credits
Major field (APY, ES, GPY, HY, PCL, OR SY)	36
*HY (to include at least two courses of U.S. History other than HY 252-253 and two courses other than U.S. History)	20
Social Science Electives	16
Total	72

*For students majoring in History, the required 20 hours in History may be a part of the 36 hour major.

**Nine quarter hours of the total may be basic general education course credits. This may be either CSS of transferred social science credit that is not otherwise used in the teaching field.

SPECIAL EDUCATION

The bachelor's degree in special education, with a major area of concentration in mental retardation, is offered through the Department of Special Education.

No course in which the grade earned is below "C" meets a requirement in this program.

Required Upper Division Courses	*Credits*
Introduction to Special Education EDH 300, EDH 310, SCH 304	11
Foundations of Education EDF 345 (or 341 or 342 or 440) and EDF 320 (or 300 or 410)	10
Special Education EDH 311, EDH 400, EDH 401, EDH 402, EDH 403, EDH 404	29
Student Teaching — EDH 405	16
Core Electives EDH 406, EDH 419, PSY 421, ED 418, ED 480, EDF 450, EDC 450, SCH 285, SCH 361, SCH 495, ED 419, STA 310, STA 320, SCH 396	12

Major fields of concentration in other areas of special education are available only at the graduate level. Students interested in such areas as learning disabilities and emotionally disturbed children should consult with staff members in special education concerning electives at the undergraduate level.

OTHER PROGRAMS

Students in the College of Education and other colleges may have individual program planned by selecting one or two areas from fields not listed or combinations which do not appear as regular programs in teacher education.

Programs provided for in this section will be worked out by the student and his adviser on an individual basis. Such individual programs must be approved by the Deans of both Colleges. The planning of combination programs will take into account the personal and educational objectives of the student, the relationship between the fields in the proposed combination, the certification requirements of the state, and the employment possibilities which the combination being considered offers. For combination programs preparation must include a minimum of 36 quarter hours above any comprehensive or general education courses in a field and 27 quarter hours, exclusive of general education courses, in the second. This assumes that the two fields are essentially related as to supplement each other. If the two fields are essentially unrelated 36 quarter hours will be required in each. A guide to the specific courses required in each field may be found in the regular Arts and Sciences-Education programs. No courses in which the grade earned is below "C" meets a requirement in these programs.

PROGRAMS IN HIGHER EDUCATION

Students planning careers in higher education will find many opportunities for professional improvement at the University of Florida. The College of Education, working with other instructional units of the University, provides opportunity for a variety of professional careers in teaching and administration in colleges and universities, in community colleges, and in area vocational-technical centers.

Specialization at the master's and/or advanced degree level is possible in the following fields:

Administration

School Administration K-12
Business Management
Higher Education Administration
Community Education
Administration of Special Education
Administration of Vocational Education

Instructional Leadership and Support

Educational Media
Reading, including Bi-Lingual Education

Vocational, Technical, and Adult Education—including Health Occupations Ed.
Post-Secondary Education
Supervision & Curriculum

Subject Specialization Teacher Education

Art Education
Music Education
Business Education
Science Education
Language Arts Education
Foreign Language Education
Mathematics Education
Social Studies Education

Of special interest are programs designed for those persons interested in joining state and regional staffs with responsibilities for coordinating and state level planning for higher education. The design of these programs emphasize both preservice preparation and inservice improvement in the areas of teaching, counseling and other student personnel services, administration and research in all types of post high school institutions. Additional emphasis is placed upon the leadership responsibilities and the roles of those who will become staff members of coordinating boards of regional agencies.

Students in the College of Education may concentrate their higher education program in any one of the five departments: Administration, Curriculum and Instruction, Counselor Education, Foundations of Education, and Special Education.

All course work is at the graduate level and will lead to one of the degrees listed in the following section.

All programs are individually planned to meet the specific needs of the individual candidate. His past experiences, present stated needs, and professional goals are basic to the development of the program of studies for the individual.

A variety of internship experiences are available for the advanced graduate student to acquire additional teaching, counseling and/or administrative experience in higher education. The internships are voluntary in nature and are designed to meet particular student needs.

GRADUATE EDUCATION DEGREES AND FIELDS OF SPECIALIZATION

Five graduate degrees are offered in the College of Education: the Master of Education, the Master of Arts in Education, the Specialist in Education, Doctor of Education, and Doctor of Philosophy.

General Teacher Education

Early Childhood Education
Elementary Education
Middle School Education

Counselor Education

School Counseling
Agency Counseling
Higher Education Personnel
Counseling Psychology
School Psychology

Foundations

Psychological Foundations
Social Functions
Research Methodology

Special Education

Mental Retardation
Emotional Disturbance
Learning disabilities
Multiple Handicapped
Speech Pathology

College of Engineering

AEROSPACE ENGINEERING
AGRICULTURAL ENGINEERING
CERAMICS ENGINEERING
CHEMICAL ENGINEERING
CIVIL ENGINEERING
COMPUTER AND INFORMATION SCIENCES
ELECTRICAL ENGINEERING
ENGINEERING GRAPHICS
ENGINEERING SCIENCES
ENGINEERING TECHNOLOGY
ENVIRONMENTAL ENGINEERING SCIENCES
INDUSTRIAL AND SYSTEMS ENGINEERING
MECHANICAL ENGINEERING
METALLURGICAL ENGINEERING
NUCLEAR ENGINEERING SCIENCES
ENGINEERING COMMON COURSES

College of Engineering

GENERAL STATEMENT

The engineer engages in creative design and construction, in research and development — serving as the bridge between human needs and the storehouse of theoretical knowledge. He applies science to the common purpose of life, coupling science with the management of men, money, machines, and materials. Engineering is a profession which challenges the individual, stimulating his ingenuity and resourcefulness, and yielding a rewarding sense of creative accomplishment.

The engineer deals with real problems in the real world. This requires a thorough knowledge of mathematics and the sciences as well as an understanding of the legal, economic, and social restrictions of contemporary society. The engineer must be able to communicate his judgments, plans, and decisions whether rendered orally or in writing. This communication must be precise and clear. He must have enough knowledge in his professional field and in allied subjects to be able to work with other engineers, scientists and technicians, to fulfill his engineering assignments. Above all, he must discharge his duties as a responsible citizen.

Engineering is a demanding and difficult area of human endeavor, but an eminently rewarding one, requiring the exercise of the highest mental attributes and adherence to uncompromising standards of ethics and professional integrity. Although the engineer must possess the precise logical skills of the mathematician and scientist, his ultimate dependence upon his own considered judgment is a characteristic unique to engineering.

The field of engineering had been thought of almost exclusively as a man's domain. In the past few years, however, increasing numbers of women have been entering this field and are taking their places in the profession on an equal footing with men.

The various curricula of the College of Engineering are designed to give the student suitable education for his entry into the profession of engineering. The undergraduate programs are founded on mathematics and the natural sciences. Additional emphasis is placed upon the humanities and social sciences to develop the beginnings of sound judgment, perspective and curiosity. Many graduates continue their formal education at the postgraduate level and work towards the master's and doctor's degree to qualify for research, administration or teaching. The student must realize, however, that education does not stop with the completion of a degree program. The truly professional engineer never stops learning.

The curricula of the College of Engineering are planned to encompass these objectives and to provide a wide range of students choice in the selection of a professional degree objective. The Department represents the organizational element within the College of Engineering which encompasses both the academc and administrative responsibilities for baccalaureate study. The Departments with baccalaureate degree responsibilities are:

Agricultural Engineering Department
- Bachelor of Science in Engineering (Agricultural Engineering)

Chemical Engineering Department
- Bachelor of Science in Chemical Engineering
- Bachelor of Science (Chemical Engineering)

Civil Engineering Department
- Bachelor of Science in Civil Engineering
- Bachelor of Engineering Technology (Land Surveying)

Computer and Information Sciences Department
- Bachelor of Science (Computer and Information Sciences)

Electrical Engineering Department
- Bachelor of Science in Electrical Engineering

Engineering Sciences Department
- Bachelor of Science in Engineering (Aerospace Engineering)
- Bachelor of Science in Engineering (Engineering Science)

Environmental Engineering Sciences Department
- Bachelor of Science (Environmental Engineering Sciences)

Industrial and Systems Engineering Department
- Bachelor of Science in Industrial Engineering
- Bachelor of Science in Engineering (Systems Engineering)

Materials Science and Engineering Department
- Bachelor of Science in Engineering (Metallurgical Engineering)
- Bachelor of Science in Engineering (Ceramic Engineering)
- Bachelor of Engineering Technology (Metals joining)

Mechanical Engineering Department
- Bachelor of Science in Mechanical Engineering

Nuclear Engineering Sciences Department
- Bachelor of Science in Engineering (Nuclear Engineering)
- Bachelor of Science (Nuclear Engineering Sciences)

In addition the College of Engineering offers a program in Interdisciplinary Engineering Studies, administered by the Dean's Office, and leading to the Bachelor of Science (Interdisciplinary Engineering Studies) degree.

For information relative to graduate degrees in engineering refer to other sections of this catalog, or the Graduate School catalog.

The Engineer's Council for Profession Development has accredited programs in the College of Engineering leading to the following degrees:
- Bachelor of Science in Engineering (Aerospace Engineering)
- Bachelor of Science in Engineering (Agricultural Engineering)
- Bachelor of Science in Chemical Engineering
- Bachelor of Science in Civil Engineering
- Bachelor of Science in Electrical Engineering
- Bachelor of Science in Engineering (Engineering Sciences)
- Bachelor of Science in Industrial Engineering
- Bachelor of Science in Engineering (Systems Engineering)
- Bachelor of Science in Engineering (Metallurgical Engineering)
- Bachelor of Science in Engineering (Ceramic Engineering)
- Bachelor of Science in Mechanical Engineering
- Bachelor of Science in Engineering (Nuclear Engineering)
- Master of Engineering (Environmental Engineering)

The General Plan of Study

The curricula leading to the various Bachelor's degree in Engineering are organized into a carefully developed sequence. The aggressive, strongly motivated student with proper high school preparation can negotiate this curriculum successfully within 12 quarters by carrying loads of 17 hours. The majority of students will require more than 12 quarters.

Many students, for different reasons, are not prepared to enter directly into the prescribed curriculum. For example, a student may have attended a high school which did not offer all the preparatory courses necessary for the entry into an engineering program. Or, possibly the student changed his career objective late in his high school program and did not as a result complete the usual high school preparation required of potential engineering students. In all such cases the student must expect that it will increase the time required to complete degree requirements.

As a general rule, subjects basic to all fields of engineering are studied while the student is in the first two years or in a community or junior college pre-engineering curriculum. Then, when professional study is undertaken in the College of Engineering, the individual characteristics and interests of the student are given consideration in the development of a program of studies most beneficial to him.

REQUIREMENTS FOR ADMISSION

The College of Engineering encourages applications from qualified male or female students from all cultural, racial, and religious groups. Specific requirements for admission to this college are listed below.

Direct Admission: The requirements for admission to the College of Engineering are shown in the Admissions section of this catalog.

University College Students: A student in a University College may request transfer at any time to the College of Engineering.

Transfer Students: Students who have not completed an AA degree at a community or junior college are eligible to transfer into the College of Engineering provided they meet the requirements shown for Admission as a Freshman under the Admissions section of this catalog.

Community and Junior College Students completing the AA degree should:

1. Satisfy the general education requirements established for the junior college.
2. The course work listed below is recommended:
   a. A program in mathematics through analytic geometry and calculus — 20 quarter hours.
   b. A program in chemistry including general chemistry and qualitative analysis — 12 quarter hours.
   c. General Physics (with calculus) with Laboratory — 12 quarter hours.
   d. Engineering Graphics — 3 quarter hours.
3. Choose elective courses in fulfilling the required total hours in the college-parallel program from the general education subjects and from the following:
   a. Differential equations (ordinary equations and transform methods).
   b. Statics, Engineering Mechanics if the course includes vector algebra.
4. Avoid Technical Education Courses since they are acceptable as part of the program only if they are demonstrated to be equivalent to required courses at the University. This does not apply to students who plan to enter the Engineering Technology program.

Any deficiencies in the above program can be made up in the College of Engineering.

FRESHMAN AND SOPHOMORE REQUIREMENTS

The following program is designed for those students whose high school preparation meets the criteria shown under Engineering in the University College section. All Freshmen are required to consult with a College of Engineering adviser in planning their academic programs.

High school records and test scores are reviewed and a program of study commensurate with the student's academic capabilities is assigned. This work-load may range from a minimum of 12 to as much as 20 credit hours per quarter. A student of average academic capabilities and a high order of motivation should be able to carry 15-16 credits each quarter and should thus be able to earn a bachelor's degree in 13 quarters. If he pursues a normal academic program of three quarters each year it will take him four years and one quarter of the fifth year to earn his B.S. degree.

Some of the General Education requirements shown below may be satisfied through the College Level Examination Program (CLEP).

Courses	*Credits*
SSC American Institutions	9
EH Comprehensive English	9
*HUM The Humanities	12
EGC 180 Introduction to Engineering	1
CY 211, 212. General Chemistry	8
CY 213 or Biological Science Elective	4
MS 301, 302, 303, 304 Analytic Geometry and Calculus	20
ESM 330 Introduction to Engineering Analysis or MS 305 Elementary Differential Equations	3
PS 215, 216, 217 General Physics with Calculus	9
PS 225, 226, 227 Physics Laboratory	3
**ISE 350 Computer Programming for Engineers	3
Physical Education	3
Electives	3
	87

*This requirement may be deferred to the Junior or Senior year and approved departmental courses taken instead.
**Students entering Chemical Engineering take CHE 303. ISE 350 is not required in the CIS program. Students in Civil Engineering may take CIS 303.

AGRICULTURAL ENGINEERING

The agricultural and food industry is the largest single industry in the United States and in Florida. The growth of agriculture and technology have proceeded together and now agricultural production and processing industries require advanced machines and systems. The industries providing these machines and the related systems require engineering skills which agricultural engineers provide. The agricultural engineer is also involved in natural resources conservation in his drainage and watershed hydrology activities.

Agricultural engineering is unique in its concern for the engineering problems of biological production and processing. The agricultural engineer solves the engineering problems associated with agriculture such as the conversion of the sun's energy into biological (food) products using soil nutrition resources and water in controlled ways. He uses his basic engineering training combined with knowledge of agricultural and biological systems to design functional machines and equipment to process and handle these products so that quality is enhanced. No challenge could be greater and more rewarding than that related to food production and processing in view of the population explosion and projected world food shortage.

The education of the agricultural engineer includes basic physical and engineering sciences and also courses in biology, soils, plant science and animal science. The courses in agricultural engineering unify the concepts learned into a practical ability to solve a broad range of problems confronting the agricultural and food industry.

Agricultural engineers have numerous career opportunities in various segments of the large Florida agricultural industry and with manufacturers of equipment and supplies for agriculture throughout the nation. Agricultural engineers are sought by state and federal agencies for careers in irrigation, drainage and water resource management and pollution control. Excellent opportunities are available for graduate study. This program is offered cooperatively with the College of Agriculture.

Degree programs: The Agricultural Engineering Department offers the following degrees: Bachelor of Science in Engineering (Agricultural Engineering), Master of Engineering, Master of Science, and the Engineer Degree.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (AGRICULTURAL ENGINEERING)

Courses	Credits
Pre-Engineering Program	87
Biological Science Requirement 1	5
EGR 193 Engineering Graphics	3
ISE 351 Numerical Techniques	2
or	
ISE 357 Analog Computer Principles (2)	
ESM 301 Engineering Mechanics, Statics	4
ESM 302 Engineering Mechanics, Dynamics	4
ESM 303 Strength of Materials	4
EGC 311 Fluid Mechanics	4
or	
CE 320 Hydraulics 1 (4)	
EE 301 Introduction to Electrical Engineering	
or	
EE 302 Elements of Electrical Engineering	5
ME 360 Thermodynamics	5
MSE 300 Materials	4
or	
CE 340 Civil Engineering Materials (4)	
CE 300 Engineering Measurements 1	2
SLS 330 General Soils	5
STA 330 Engineering Statistics	3
Animal Science Requirement	3
Plant Science Requirement	3
AGE 404 Analytical and Professional Methods Agricultural Engineers	4
AGE 410 Heat and Mass Transfer in Biological Systems	4
AGE 421 Agricultural Structures	5
AGE 426 Engineering Principles of Plant and Animal Environment	4
AGE 450 Soil and Water Conservation Engineering	4
AGE 451 Drainage and Irrigation Engineering	4
AGE 460 Agricultural Tractors and Power Units	3
AGE 461 Agricultural Field Machines	5
Electives	26
Total Credits	202

CHEMICAL ENGINEERING

Although chemical engineering has existed as a field of engineering for only about sixty years, its name is no longer completely descriptive of this dynamic, growing profession. For the work of the chemical engineer is neither restricted to the chemical industry nor limited to chemical changes or chemistry. Instead, modern chemical engineers, who are also called *process* engineers, are concerned with *all* the physical and chemical changes that matter is made to undergo to produce economically a product or result that is useful to mankind. More than most fields, the education of the chemical engineer has been based on the fundamental sciences of physics and chemistry, on mathematical and computer techniques, and on basic engineering principles. Such a broad background has made the chemical engineer extremely versatile and capable of working in a wide variety of industries: chemical, petroleum, aerospace, nuclear, materials, sanitation, food processing, and computer technology. The chemical industry alone provides an opportunity for the chemical engineer to participate in the research, development, design or operation of plants for the production of new synthetic fibers, plastics, chemical fertilizers, vitamins, antibiotics, rocket fuels, nuclear fuels, paper pulp, photographic products, paints, fuel cells, transistors, and the thousands of chemicals that are used as intermediates in the manufacture of the above products.

In practice, the activities of the chemical engineer are sufficiently diversified to attract a wide range of talents and abilities. The chemical engineers working in *process design* determine the sequence of steps to be followed in producing a useful product, calculate the sizes of the equipment required and the total cost, those working in *development research* do small scale studies on new processes or products; those working in *production* improve and coordinate the operation of plants and equipment. Others do *fundamental research* on the laws of science and their application. Many chemical engineers work in technical sales, cost estimation, patent law, and plant supervision. A chemical engineering background is often the best route to top-level management positions.

Degree Programs: The following degrees are offered by the Chemical Engineering Department: Bachelor of Science in Chemical Engineering, Bachelor of Science, Master of Engineering, Master of Science, Doctor of Philosophy.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

	Credits
Pre-Engineering Program	87
*EGR 183 Engineering Graphics 1	(2)
CHE 301 Introduction to Chemical Engineering	(5)
*Elective	(2)
Subtotal	9

*EGR 193 may be taken to satisfy this requirement.

Engineering Science Courses

	Credits
EE 301 Introduction to Electrical Engineering	5
ESM 301 Engineering Mechanics 1	4
ESM 302 Engineering Mechanics 2	3
ESM 303 Engineering Mechanics 3	3
CHE 331 ChE Thermosynamics	2
MSE 300 Materials	3
CHE 421 Chemical Kinetics and Processing	3
CHE 422 ChE Laboratory 77	2
CHE 423 Reactor Dynamics and Design	3
CHE 433 ChE Thermodynamics 2	5
CHE 441 Elementary Transport Phenomena	3
CHE 442 Multidirectional Transport Phenomena	2
Subtotal	38

Advanced Chemistry

CY 381, 382 Organic Chemistry	7
CY 384 Organic Chemistry Lab	1
CHE 376	2
CY 451, 452 Physical Chemistry	7
Subtotal	17

Engineering Analysis and Design

CHE 311 Systems Analysis	2
CHE 312 Chemical Engineering Lab 2	1
CHE 363 Chemical Engineering Operations 1	3
CHE 365 Chemical Engineering Operations 2	3
CHE 411 Process Control Theory	3
CHE 412 Chemical Engineering Laboratory 5	1
CHE 462 Chem. Eng. Operations Laboratory 1	3
CHE 463 Chemical Engineering Operations 3	3
CHE 464 Chem. Eng. Operations Laboratory 2	3
CHE 471 Cost Estimation of Process Designs	3
CHE 473 Process Design	3
Subtotal	28

Other Required Courses

STA 330 Engineering Statistics	3
CHE 481 Seminar	1
Free Electives	9
Subtotal	13

Option Courses..... Subtotal 21
Total Professional Programs..... 126
Total Pre-Engineering..... 87

Total BSChE Degree 213

DEPARTMENTAL PROGRAMS

These programs lead usually after 14 quarters to the degree of Bachelor of Science in Chemical Engineering. The option consists of 21 credits of which a student must have at least 12 credits in an area that constitutes a coherent thread of interest. A student elects an option area, then with his advisor selects the courses to form his option.

A *process engineering option* is a high quality fundamental program designed to educate an unusually versatile engineer who is capable of working in a large number of process industries and a wide range of jobs such as process design, process research and development, and in the improvement of chemical and physical process and plant operations.

A *computer and information science option* (CIS) provides students a wide experience in the structure of computers, computer languages, and computer application in modern technology.

An *interdisciplinary option* permits the chemical engineering student with parallel interests in other fields to take approved course work in related engineering disciplines: Aerospace, Biomedical, Electrical, Environmental, Materials, Mechanical, Nuclear, Food Science.

Biomedical and Environmental Options. Students having interests in the life sciences or the environmental problems of our society should consider these options. A biomedical option can satisfy the admission requirements for medical school and an environmental option is preparation for graduate work in Environmental Engineering.

A *practice option* is designed for students with strong chemical engineering backgrounds who also have interests in engineering plant operations and supervision, in business administration, in marketing, or technical sales and services. This program is designed for industrial employment or as a preparation for further work in Business Administration or Law. Admission to the graduate programs in engineering is also possible for those students who are qualified.

Among the programs offered, a *process engineering option* is recommended for most students because of the unusual versatility of employment opportunities that it provides in all areas. However, the other programs are available for students who desire greater flexibility in their academic program or who have more definite career objectives.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE & TO THE MASTERS DEGREE IN ENGINEERING

See University College portion for Pre-Engineering Curriculum.

The Department has also developed an alternative route for above-average students to attain high-level knowledge in applied science and chemical engineering fundamentals. This program consists of a bachelor's degree directly coupled to a Master of Engineering degree which can be completed within 5 years.

The bachelor's degree contains most of the same ChE courses as for the BSCHE degree and is awarded to students who have been admitted to the Graduate School. The ME degree involves the same spectrum of Chemical Engineering areas but with more sophisticated material than is contained in the BSCHE degree.

In the minimum of 234 quarter credits, the student will have earned a Master's degree and reached a significant level of professional education and will be capable of entering essentially all process industries in positions ranging from research to design, development, analysis, or operations.

The undergraduate program parallels the BSCHE program until the last three terms when the material in some courses and most electives are postponed to the graduate level where it is upgraded and supplemented. Details of the graduate program can be obtained from the Graduate Coordinator.

The curriculum consists of all courses required for the BSCHE degree except for ChE 411, 412, 423, 441, 442 (12 credits) and the option is replaced by 7 credits.

Total Credits Upper Division..... 90
Total Credits Lower Division..... 96
Total BS degree 186

CIVIL ENGINEERING

Civil Engineering is directly concerned with the activities of man and his environment. It is the oldest and most diverse branch of engineering and includes the design and construction of bridges, buildings, dams, waterways, coastal protection works, airports, pipe lines, missile launching facilities, blast shelters, railroads, highways, sanitary systems, ocean structures and facilities, foundations, harbors, water works, and many other systems and structures upon which modern civilization depends. In its broadest sense, the function of the civil engineer may therefore be defined as the adaptation of the physical features of the earth to the needs of man. Approximately one-fourth of all engineers are engaged in Civil Engineering.

The concentration of population into cities, the mass use of the automobile and the airplane, the increasing demands of industry for greater quantities of power and the public's demand for clean streams and beaches, for clean air, and the potential for man's expansion into space and the oceans present the civil engineer with many challenging problems.

To assist the young engineer to meet these challenges, the Civil Engineering Department offers a wide selection of courses in the fields of structural engineering, soil mechanics, foundations, hydraulics, coastal engineering, highways, and environmental engineering. Beyond the bachelor's degree, advanced degrees may be obtained in the several major areas of civil engineering such as transportation, hydraulics, structural, soil mechanics, foundations and construction.

While it is essential that the civil engineer understand the fundamentals of his chosen field, it is also necessary that he understand the role other branches of engineering play in the completed work. The Civil Engineering curriculum therefore includes courses from other engineering disciplines, and because of this broad program, it provides an excellent basic engineering education. Thus, the student who is not quite sure which field of engineering to choose is provided with the broadest of engineering backgrounds, a springboard, so to speak, to specialization.

Degree Programs. The Civil Engineering Department offers the following degrees: Bachelor of Science in Civil Engineering, Master of Engineering, Master of Science, the Engineeer Degree, and Doctor of Philosophy.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL ENGINEERING

See University College portion for Pre-Engineering Curriculum

	Credits
Pre-Engineering Program	86
EGR 193 Engineering Graphics	3
EGR 194 Design Processes in Engineering	2
ESM 301 Engineering Mechanics-Statics	4
ESM 302 Engineering Mechanics-Dynamics	3
ESM 303 Mechanics of Materials	3
GY 220 Engineering Geology	4
EE 302 Elements of Electrical Engineering	5
ME 360 Thermodynamics	5
STA 330 Engineering Statistics	3
CE 290 Civil Engineering Concepts	2
CE 300 Engineering Measurements	2
CE 320 Hydraulics	4
CE 340 Civil Engineering Materials	4
CE 370 Mechanics of Engineering Structures	4
CE 371 Stress Analysis 1	4
CE 400 Surveying and Field Measurements	3
CE 401 Construction Methods and Management	4
CE 404 Civil Engineering Cost Analysis	3
CE 410 Highway Engineering	3
CE 420 Hydraulics and Water Resources Engineering	4
CE 450 Water Supply Engineering	4
CE 451 Sewerage and Waste Water Treatment	4
CE 460 Soil Mechanics	3
CE 461 Soil Mechanics and Foundations	4
CE 470 Introduction to Structural Design	4
CE 472 Stress Analysis 2	4
CE 490 Senior Seminar	1
CE 493 Computer Methods in Civil Engineering	3
***Professional Electives	16
**Non-Technical Electives	4
Total Quarter Hours	202

**Elective choice from the social science and humanities areas is recommended.

***Professional Electives must be selected from the following list:

CE 403 Structural Estimating (3)
CE 405 Construction Contracts and Specifications (3)
CE 411 Traffic and Transportation Engineering (4)
CE 423 Water Resources Engineering (3)
CE 462 Foundation Design (3)
CE 474 Design in Reinforced Concrete (3)
ENV 400 Water and Waste Water Treatment (4)
COE 400 Introduction to Coastal and Oceanographic Environment (4)

The student may also elect courses from the following list to satisfy the Professional Electives requirement. The student will be charged for these courses at the graduate course rate.

CE 570 Prestressed Concrete (3)
CE 572 Design of Highway Bridges (3)
CE 575 Design in Steel and Timber (3)
CE 521 Geohydrology (3)
CE 522 Open-Channel Hydraulics (3)
GY 550 Groundwater Geology (4)
CE 510 Highway Design (3)
CE 560 Stress-Deformation Analysis of Soil Media (3)
CE 561 Soil Exploration for Engineering Design (3)
CE 501 Construction Equipment and Procedures (3)
CE 502 Construction Planning and Scheduling (3)
CE 512 Transportation Engineering (3)
CE 513 Traffic Engineering Characteristics (4)

NOTE: The above list may be amended without notice by the action of the faculty of the Department of Civil Engineering.

COMPUTER AND INFORMATION SCIENCES

During the last two decades electronic information processing machines with capability many orders of magnitude beyond their predecessors have come into being. Though still in their infancy they are already extending man's capability to solve problems in every field of human activity. Against this background, the organization of a curriculum dedicated to a broad sector of human endeavor was necessary. Toward this end the Intercollege Department of Computer and Information Sciences was created in 1971 offering degree programs in Arts and Sciences and Business Administration as well as Engineering.

Subject areas found within the CIS curricula are concerned with representations and transformations of information structures and with theoretical models for such representations and transformations. In addition the computer or information scientist is concerned with systems having the ability to transform information and the methodologies derived from broad areas of applications having common structures, processes and techniques.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE (COMPUTER AND INFORMATION SCIENCES)

The curriculum in Computer and Information Sciences requires a minimum of 202 quarter credits as shown in the following list.

	Credits
Pre-Engineering Program	84
CIS 311, 312, 321, 322 and 331	20
EGR 183	2
*Engineering Core	9
CIS 323, 411, 453 and 461	15
CIS 496 (2 hrs. lab, 2 hrs. project)	4
MS 328 and STA 410	9
Technical Electives	22
**Restricted Technical Electives	20
Non-Technical Electives	10
Free Electives	7
Total Program	202

*Must choose at least three hours from each of three of four areas comprising ESM, EE, ME and MSE. Acceptable courses are ESM 304, EE 301, ME 360 (or CHE 333) and MSE 300 (or MSE 310). Other courses may be substituted by petition. Any hours in excess of nine may be used as technical or free (not non-technical) electives.

**Must be chosen from approved lists copies of which may be obtained from the CIS departmental office in Weil 512.

ELECTRICAL ENGINEERING

Electrical Engineering is a science oriented branch of engineering primarily concerned with all phases and development of the transmission and utilization of power and intelligence. The study of electrical engineering is commonly divided into the academic areas of circuits, electronics, fields, electric energy engineering, communications, control, and computer engineering.

Because of the extremely rapid growth and changes relating to the application of electrical engineering principles, the curriculum is designed for concentration on a solid core of the basic foundation courses, rather than on a sampling of application courses which may soon become obsolete. Because of the strong core program, the electrical electives as listed are considered primarily as courses to be taken according to individual interest in order to permit a student to delve deeply into subject matter previously introduced. Other electives as indicated by the footnote may be selected from the approved lists of the Electrical Engineering Department.

The department's extensive laboratory facilities and varied research programs will assist in highlighting both the experimental and theoretical approaches to electrical engineering.

Beyond the baccalaureate degree the department offers graduate programs for students interested in advanced degrees. As more and more students are continuing to further their education in the graduate schools of the nation, it is advisable that those who may become qualified seek early counseling. Even as early as the seventh and eighth quarters, the course work in many cases may be directed toward future graduate work. Certainly, the choice of electives taken during the last few quarters of the undergraduate curriculum may relate to areas of interest to be pursued in the graduate program.

Degree Programs: The Electrical Engineering Department offers the following degrees: Bachelor of Science in Electrical Engineering, Master of Engineering, Master of Science, Engineer, and Doctor of Philosophy.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

The curriculum in electrical engineering requires completion of the following program in addition to the freshman-sophomore requirements outlined above.

	Credits
Pre-Engineering Program	87
*EGR 183 Engineering Graphics	2
*EE 301 Introduction to Electrical Engineering	5
EE 321, 322 Electronics 1 and 2	9
EE 331, 332, 333 Circuits 1, 2 and 3	10
EE 352, 353 Electromagnetic Fields and Applications 1 and 2	7
EE 361 Computational Techniques	4
EE 381, 382 Elements of Electrical Energy Engineering 1 and 2	6
EE 441 Communication Systems and Components	4
EE 474 Linear Control Systems	4
EE 320, 340, 420, 430, 440, 450 Electrical Engineering Laboratories	6
MS or STA Mathematics or Statistics Elective	3
ME 360 Thermodynamics	5
ESM 301, 302 Engineering Mechanics	6
**ESM 303 Strength of Materials	4
Technical Electives	28
Non-Technical Electives	9
*Electives	3
Total Credits Required	202

*These course requirements are often satisfied during the Freshman-Sophomore years.

**It is possible to substitute MSE 310 for ESM 303.

The technical electives are usually chosen with emphasis in one of the following areas:

1. Computer and Information Engineering
2. Communication Theory
3. Electronics
4. Electric Energy Engineering
5. Life Sciences
6. Circuits and Systems; and
7. Fields and Waves

ENGINEERING SCIENCES

The Department of Engineering Sciences offers bachelor's degree programs in Aerospace Engineering and in Engineering Science. At the graduate level it offers programs leading to master's degrees and the Engineer degree in aerospace engineering, in coastal and oceanographic engineering, in engineering mechanics, and in engineering science. The Doctor of Philosophy degree is offered in aerospace engineering and in engineering mechanics, with specialized tracks in the latter discipline in coastal and oceanographic engineering, in engineering analysis and applied mathematics and in theoretical and applied mechanics.

The department is committed to excellence in both teaching and research. Through active and diverse research programs, the professional competence of the faculty is maintained and both *undergraduate* and *graduate* students have opportunity to participate in exciting programs dealing with problems at the forefront of science, technology, and societal needs.

UNDERGRADUATE PROGRAM IN AEROSPACE ENGINEERING

This program is designed to prepare its graduates for careers in aeronautical engineering or in space-related engineering fields. It also prepares certain students for post-baccalaureate education in preparation for careers in advanced research.

On a strong base of physical and mathematical fundamentals, the program builds in the engineering principles essential to both atmospheric and extra-atmospheric flight. Aerodynamics, light-weight structures, flight propulsion and related subjects typical of aeronautical engineering are included. Also there are courses that introduce problems associated with space flight and its requirements. Integration of fundamentals and program principles into useful applications is made in design work at upper levels. Thus the curriculum provides the background for future technological growth while it also prepares the graduate for useful career work in the aerospace world.

The selection of an area of individual interest by the student enables his development of some concentration in that area through counseled choice of elective work. Examples of concentration areas are:

Aerodynamics
Design
Flight Propulsion
Flight Structures
Space Technology
Stability, Control and Guidance

Graduates of the Aerospace Engineering program are prepared for employment in aerospace industry in Florida and elsewhere. Their broad scope of fundamental preparation also suits them for specialized work in related industries and government laboratories.

UNDERGRADUATE PROGRAM IN ENGINEERING SCIENCE

The interdisciplinary nature of most of today's major engineering and social problems has led to a critical need for men and women thoroughly and broadly trained in engineering and the physical and social sciences. Based upon a broad foundation of science, engineering and the humanities, the Engineering Science Program is designed to educate engineers capable of becoming leaders in tomorrow's technological society.

One of the strongest features of the Engineering Science Program is the flexibility it offers the graduate to work in newly developing areas of engineering. Graduates of the program find many challenging career opportunities. Typical industrial opportunities include research, development, and manufacturing operations of computer, electronics, communications, chemical, aerospace, oceanographic petroleum, and consumer products corporations. There are also excellent opportunities in the many federal government services, and university-associated and privately operated research institutes and laboratories. In addition, many graduates of the program proceed immediately to graduate study in the various branches of engineering, mathematics, physics and life and social sciences.

Also, an increasing number of students are finding the program to be excellent preparation for medical, dental, law, and business administration studies.

The curriculum leading to the degree of Bachelor of Science in Engineering Science consists of a core of courses providing a broad and basic background in mathematics, physics, chemistry, engineering science and design, humanities and social science. The remainder of the student's program consists of a large number of electives to be chosen by the student together with his individual faculty advisor to form a coherent group of courses directed toward a clearly defined objective. The exact content of this group of courses is determined by the student's career objectives. Guidelines for concentration in the following areas have been prepared and are available from Engineering Science Program counselors.

Applied Mathematics and Computer Science
Biomechanics
Biomedical Engineering (Pre-Medical)
Coastal and Oceanographic Engineering
Communications Sciences
Control of Dynamical Systems
Engineering Optics and Lasers
Environmental Engineering
Experimental Mechanics
Fluid Mechanics
Mechanics of Materials
Oceanographic Engineering
Pre-Dental
Pre-Law
Sociological Aspects of Engineering
Structural Mechanics
Technical Management (Business Administration)

These concentrations illustrate the extraordinary range of areas of specialization which may be followed within the framework of this program. The student may pursue one of these areas or build a coherent program toward some other objective with the aid of his adviser.

Students and prospective students of engineering science are encouraged to discuss their career objectives and academic plans with our counselors at all stages of their studies. More detailed program brochures and counseling appointments are readily available by writing or visiting the department offices.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (AEROSPACE ENGINEERING)

Courses	*Credits*
Pre-Engineering Program	87
ASE 305 Elem. of Aero. and Astronautics	3
ASE 400 Applied Aerodynamics	4
ASE 401 Low Speed Aerodynamics	5
ASE 402 High Speed Aerodynamics	5
ASE 403 Wing and Airfoil Theory	4
ASE 441 Aerospace Structures 1	5
ASE 442 Aerospace Structures 2	5
ASE 443 Aerospace Structures 3	4
**ASE 461 Aerospace Propulsion 1	5
ASE 475 Instrumentation for Aerospace Engineers	3
ASE 485 Aerospace Design 1	3
ASE 486 Aerospace Design 2	3
ASE 490 Senior Seminar	1
*EGR 193 Engineering Graphics	3
EE 301 Introduction to Electrical Engineering	5
ESM 301 Engineering Mechanics-Statics	4
ESM 302 Engineering Mechanics-Dynamics	4
ESM 303 Mechanics of Materials	4
EGC 311 Fluid Mechanics	4
ESM 431 Engineering Analysis 1	4
ESM 432 Engineering Analysis 2	4
**ISE 351 Numerical Techniques	2
ME 360 Thermodynamics 1	5
MSE 300 Materials 1	4
ASE Electives	8
Technical Electives	8
Non-Technical Electives	6
Upper Division Total	106
Total Credits	202

*ME 460 and ME 461 (6 Credits) may be substituted for ASE 461.
**EE 361 may be substituted for ISE 351

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (ENGINEERING SCIENCE)

Course	*Credits*
Pre-Engineering Program	87
ASE 490 Senior Seminar	1
EE 301 Introduction to Electrical Engineering	5
EE 320 Electrical Engineering Laboratory 1	1
EE 321 Electronics 1	4
EE 331 Circuits 1	3
EE 352 Electromagnetic Fields 1	4
EE 361 Computational Techniques	4
EGR 183 Engineering Graphics	2
ESM 301 Engineering Mechanics-Statics	4
ESM 302 Engineering Mechanics-Dynamics	4
ESM 303 Mechanics of Materials	4
EGC 311 Fluid Mechanics	4
ESM 401 Engineering Design 1	4
ESM 402 Engineering Design 2	4
ESM 431 Engineering Analysis 1	4
ESM 432 Engineering Analysis 2	4
ESM 433 Engineering Analysis 3	4
ESM 440 Introduction to Engineering Optics	4
MSE 300 Materials 1 and MSE 301 MSE 310 Electrical Properties of Materials	4
+PS 340 Modern Physics 1	3
Thermodynamics Electives	5
**General Electives	36
Departmental Electives	3
Total Requirement	202

+Students enrolled in the environmental engineering concentration may substitute CY 331 or ZY 201 for PS 340 with approval of adviser.

**The 36 hours of general electives shall include a minimum of 10 hours of humanities and/or Social Science and a minimum of 10 hours of technical courses. Subject to this restriction, the student may choose his electives from courses offered throughout the university, provided they form a coherent group of courses directed toward a clearly defined objective and are approved by the student's departmental counselor.

ENGINEERING TECHNOLOGY

Engineering Technology offers a coherent four-year program of study leading to the Bachelor of Engineer Technology degree. This 184 quarter hour program can be easily completed in four years by the average student. It is possible for a student to transfer into this program from a Community or Junior College with an AA or AS degree. It is preferred that these students take a pre-technology program leading to an AA degree.

Engineering Technology is that part of the technological field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities; it lies in the oc-

cupational spectrum between the craftsman and the engineer at the end closest to the engineer.

The internship program involves several possibilities, one being the student spending the afternoons of 20 or more weeks during the Senior year in an engineering shop or laboratory working with the people involved in various projects in order to become skilled in a specialized technique. Another possibility is a closely supervised co-op program in industry. In the case of the Land-Surveying program the student would satisfy the internship by cooperative work with a licensed land surveyor. Land Surveying and Materials Technology Specialties are available.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF ENGINEERING TECHNOLOGY

Core Courses	*Credits*
CEH Comprehensive English	9
CSS American Institutions	9
HUM Humanities	12
EH 302 Technical Writing	3
SCH 201 Introduction to Oral communications	5
Physical Education	3
AGT 201 Elementary Accounting	5
ISE 411 Specifications, Contracts, Ethics and Industrial Safety	3
MS102 Algebra and Trigonometry	5
MS 201 Analytical Geometry and Calculus for Architecture	5
MS 306 Advanced Calculus for Architecture	4
STA 330 Engineering Statistics	3
CY 201 General Chemistry	4
PS 201, 202 Applied Physics	10
EGR 193, 196 Graphics	5
CIS 303, 305 Computer Programming	4
MSE 391 Mechanical Testing Lab	1
MSE 392 Physical Testing Lab	1
ESM 241, 342 Construction Mechanics	10
EE 302 Elements of Electrical Engineering	5
	106

COURSES SPECIAL TO LAND SURVEYING MAJORS

Courses	*Credits*
RE 350 Real Estate Analysis	5
RE 440 Real Estate Law	4
RE 470 Urban Land Use Analysis	4
CE 401 Construction Methods and Management	4
CE 404 Civil Engineering, Project Cost Analysis	3
BTY 342 Local Flora	3
GY 220 Geology for Engineers	4
ATY 141, 142 Descriptive Astronomy and Lab	5
ENT 352 Hydraulics and Hydrology	3
SPECIALTY COURSES	32
CO-OP OR INTERNSHIP	4
ELECTIVES	7
TOTAL CREDITS	184

COURSES SPECIAL TO MATERIALS TECHNOLOGY MAJORS

Courses	*Credits*
CY 202 General Chemistry	4
MGT 310 Principles of Management	4
ISE 420 Engineering Economy	3
ME 360 Thermodynamics	5
ENT 320, 321 Machine Shop	2
MSE 300 Materials 1	3
MSE 301 Materials 1 Lab	1
MSE 390 Materials Processing Lab	1
MSE 491 Metallography Lab	1
MSE 492 Metals Joining Lab	1
MSE 350 Phase Diagrams	3
SPECIALTY COURSES	32
TECHNICAL ELECTIVES	8
CO-OP OR INTERNSHIP	10
TOTAL CREDITS	184

ENVIRONMENTAL ENGINEERING SCIENCES

Environmental Engineering Sciences is a rapidly developing field in which the application of engineering and scientific principles is used to protect and preserve man's health and well-being through the control of his environment. Initially concerned only with water resources and the treatment or protection of drinking water supplies, the field first became known as Sanitary Engineering. Now, since it embraces the broad field of the general environment, including air, food, shelter, radiological health, transportation and accident prevention as well as water, the term Environmental Engineering Sciences is preferred.

During recent years, there has been such an unprecedented demand for environmentalists that there are many more positions open than there are properly qualified graduates to fill them. It has been estimated that the number of engineers and scientists employed in health departments alone will have to be more than doubled to supply the present need. Increasing activities in many applications of nuclear energy are likewise demanding individuals with special training in environmental control. Hazards and wastes from research, reactor operation, radiological procedures and tracer techniques are problems which are properly the concern of these specialists and require more qualified persons than are presently available.

More and more industries are now using the varied services of environmental engineers and scientists to good advantage. The growing importance of atmospheric pollution problems has led many industries to give increased attention to this phase of waste disposal. Graduates from Environmental Engineering Sciences programs are being called upon by industry to apply their special knowledge in conducting surveys and formulating abatement programs which will not merely transfer the pollution from the air to other areas of the environment.

The reasons for this expanding field of opportunity are due largely to the impact of advancing technology on modern community living. With each new development there has been a period of transition during which the pollution control specialist has been called upon to broaden his activities to keep pace with progress and new developments in environmental protection and public health.

This process of evolution has manifested itself in so many different aspects of environmental concern that environmental engineering sciences has become one of the broadest and most challenging of all careers. Advances in technology create more demands for environmental engineers and scientists. Every new manufacturing plant, every new chemical industry, new improvements in nuclear science and in transportation — all increase the number and magnitude of problems for these specialists to solve.

It is becoming increasingly apparent that the environment cannot be sectionalized, but rather, it must be viewed as one continuous entity consisting of air, water, land, and people. This ecological concept has given rise to a new approach to environmental problems known as environmental systems management or systems ecology. To function in this area, an individual needs a broad background, not only in the basic sciences and engineering but also in medical sciences, law, economics, and political science. Students in other fields are encouraged to join with the engineers and scientists in this program by selecting

environmental engineering sciences courses and, when suitable, to undertake master's and doctoral research at the interface between environmental engineering sciences and their major field.

Historically, degree programs in Environmental Engineering Sciences have been at the graduate level. However, responding to the tremendous demand for people trained in this field, the Department of Environmental Engineering Sciences initiated an undergraduate degree in 1972. The requirements for this degree, Bachelor of Science (in Environmental Engineering Sciences), are given below. In addition, the Department of Chemical Engineering, the Department of Civil Engineering and the Department of Engineering Sciences permit their students to pursue technical concentration in Environment Engineering Sciences. This is accomplished through the selection of appropriate technicaal elective courses taught by the Department of Environmental Engineering Sciences. Persons with pre-medical interests can satisfy admission requirements for medical school with this progam and judicious selection of electives. Students from other departments are also welcome to take courses in Environmental Engineering Sciences to the extent allowed by their backgrounds.

Dereee Programs: The Department of Environmental Engineering Sciences offers the following degrees: Bacheolr of Science, Master of Engineering, Master of Science, the Engineer Degree and Doctor of Philosophy.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE (ENVIRONMENTAL ENGINEERING SCIENCES)

The following list of courses are those that must be completed to become eligible for the Bachelor's degree in Environmental Engineering Sciences.

PRE-ENGINEERING REQUIREMENTS..... 87
*CBS 211, 221, 231 Biological Science..... 9

Total 96

BTY 203 General Botany..... 5
CE 450 Water Supply and Wastewater Removal..... 4
CE 451 Treatment of Water and Wastewater..... 4
ME 360 Thermodynamics I..... 5
COE 400 Introduction to the Coastal & Ocean Environment..... 4
EE 302 Elements of Electrical Engineering..... 5
ENV 201 Concepts of Environmental Engineering Sciences..... 2
ENV 401 Environmental Engineering Sciences..... 4
ESM 301 Engineering Statics..... 4
EGC 311 Fluid Mechanics..... 4
ISE 357 Analog Computer Programming..... 2
CE 404 Civil engineering Cost Analysis..... 3
STA 300 Engineering Statistics..... 3

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Choice of 5 out of the following 6 courses:
BTY 301 Introduction to Ecology..... 5
CY 362 Organic Chemistry..... 4
ENV 431 Water and Wastewater Analysis..... 4
ISE 474 Survey of Operations Research..... 4
MCY 302 Basic Biology of Microorganisms..... 3
and MCY 303 Lab. for MYC 302..... 2
PS 340 Modern Physics 1..... 3

20 to 22

*Students planning to take additional courses in biology should take ZY 201 and ZY 202 in lieu of the CBS series.

Choice of 3 out of the following 5 courses:
ENV 422 Public Health Engineering..... 4
ENV 440 Introduction to Radiological Health..... 4
ENV 451 Introduction to Air Pollution..... 4
ENV 560 Ecological and General Systems..... 4
ENV 480 Introduction to Solid Wastes..... 3

Subtotal Required Courses 80 to 83
Electives 23 to 26
Required non-technical electives 10
Remaining credits in technical electives 13 to 16

Total hours required 202

INDUSTRIAL AND SYSTEMS ENGINEERING

The rapid growth and complexity of industry in the United States and the Southeast in particular have created unusual opportunity for Industrial Engineers and Systems Engineers. The advent of automation and the emphasis on increased productivity coupled with higher levels of systems sophistication are providing impetus to the demand for the engineering graduate with a broad interdisciplinary background.

The curriculum in industrial engineering prepares the student for industrial practice in such areas as product design, process design, plant operation, production control, quality control, facilities planning, work system analysis and evaluation, and economic analysis of operational systems.

The department offers an undergraduate program in systems engineering which emphasizes the integration of knowledge and technology from the engineering, biological, and physical sciences to carry out the processes of description, analysis, synthesis, and optimization in both the industrial and non-industrial setting. The Systems Emgineer learns to define problems from a broad perspective in which the contributions of indiviual components to a total mission is clearly seen.

Both the Industrial Engineer and the Systems Engineer are concerned with the use of engineering principles in the solution of problems encountered in environments and situations where a quantitative basis for decision making is desirable. Such decision making requires the application of the tools of economics, operations research, statistics, mathematics, and engineering analysis, with dependence on the computer.

Depending upon his interest, the student may pursue a major program in industrial engineering or in systems engineering. These major programs offer the required flexibility to meet the diversified demands of all indusrty and graduate schools. The industrial engineering program prepares the student for professional engineering practice while the systems program further prepares the engineer to carry out analysis and design of large scale operations requiring diversified inputs. Both programs will allow the interested students to prepare for graduate studty.

Degree Programs: The Industrial and Systems Engineering Department offers the following degrees: Bachelor of Science in Industrial Engineering, Bachelor of Science in Engineering (Systems Engineering), Master of Engineering, Master of Science, the Engineer Degree, and Docotr of Philosophy.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING

Upon satisfactory completion of the pre-engineering program, the following courses constitute the requirements for the degree of Bachelor of Science in Industrial Engineering.

Engineering College Core Program (34 credits minimum)

Courses	*Credits*
ESM 301, 302 Engineering Mechanics 1 and 2	10
EE 301 Introduction to Electrical Engineering	5
ME 360 or Thermodynamics	5
or	
CHE 333 Chemical Engineering Thermodynamics 1	3
or	
EGC 311 Fluid Mechanics	5
MSE 300 Materials 1	4
or	
CHE 353 Materials of Engineering	3
ISE 351 Numerical Techniques	2
ISE 357 Analog Computer Principles	2
ISE 453 Industrial Systems Simulation	3
An elective course restricted to one of the five areas above to total a minimum of 34 credits (including ISE 350)	(maximum) 4

Industrial Engineering Core Program

Courses	*Credits*
Pre-engineering Program (Net from Lower Div.)	87
ATG 201 Elementary Financial Accounting	5
EGR 193 Engineering Graphics	3
ES 502 Basic Economics	5
STA 440, 441, Mathematical Statistics 1,2	8
ME 382 Manufacturing Processes	4
ISE 300 Industrial and Service Processes	3
ISE 301 Introduction to Industrial and Systems Engineering	3
ISE 330 Work Design	3
ISE 401 Matrix Methods in Systems Engineering	3
ISE 402 Transform Methods in Systems Engineering	3
ISE 410 Inventory Systems	3
ISE 420 Engineering Economy	3
ISE 432 Production and Inventory Control Systems	3
ISE 433 Facilities Planning	3
ISE 434 Production Systems Analysis and Design	3
ISE 440 Human Engineering	3
ISE 452 Industrial Quality Control	3
ISE 470, 471 Operations Research	6
ISE 490 Seminar	1
Technical Electives	11
Non-technical Electives	9
Total Quarter Hours	203

Prospective junior college transfers should take the equivalent of 6 quarter credits in basic economics and/or 5 quarter credits of elementary financial and cost accounting if other designated courses are not available.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (SYSTEMS ENGINEERING)

The following courses are required for the degree of Bachelor of Science in Systems Engineering as part of the pre-engineering program.

Courses	*Credits*
EGR 193 Engineering Graphics	3
ISE 301 Introduction to Industrial and Systems Engineering	3
ISE 351 Numerical Techniques	2
ISE 401 Matrix Methods in Systems Engineering	3
Total Hours	10

Upon satisfactory completion of the pre-engineering program the following courses listed alphabetically constitute the requirements for the degree of Bachelor of Science in Systems Engineering.

Courses	*Credits*
MSE 300 Materials 1	4
EE 301 Introduction to Electrical Engineering	5
EE 474 Linear Control Systems	3
ESM 301 Engineering Mechanics 1	4
ISE 357 Analog Computer Principles	2
ISE 402 Transform Methods in Systems Engineering	3
ISE 410 Inventory Systems	3
ISE 420 Engineering Economy	3
ISE 421 Economic Decision Models	3
ISE 440 Human Engineering	3
ISE 452 Industrial Quality Control	3
ISE 453 Industrial Systems Simulation	3
ISE 470, 471 Operations Research 1 and 2	6
ISE 480 Stochastic Systems	3
ISE 481 Systems Design	3
ISE 490 Industrial and Systems Engineering Seminar	1
ISE 451 Numerical Techniques in Systems Engineering	3
ISE 462 Methods of Reliability Engineering	3
ME 360 Thermodynamics 1	5
STA 440, 441, Mathematical Statistics 1, 2	8
Restricted Technical Electives	6
Technical Electives	13
Non-Technical Electives	10
Plus one of the following:	
EE 321 Fundamental Electron Devices	3
EE 331 Circuits 1	3
EE 352 Electromagnetic Fields 1	3
EE 443 Noise in Devices and Communications Systems	5
EE 381 Elements of Electrical Energy	3
EE 570 Control System Theory & Practice	4
Total Hours	203

RESTRICTED TECHNICAL ELECTIVES FOR SYSTEMS ENGINEERING

Aerospace Engineering
- ASE 302 Aerospace Analysis 2
- ASE 303 Aerospace Analysis 3

Environmental Engineering
- CE 450 Water Supply Engineering
- CE 451 Sewerage and Wastewater Treatment

Chemical Engineering
- CHE 301 Introduction to Chemical Engineering
- CHE 302 Chemical Engineering Lab 1

Coastal Engineering
- COE 400 Introduction to Coastal and Oceanographic Engineering
- COE 410 Coastal Hydraulics

Computer Science
- CIS 307 Problem Oriented Languages
- CIS 321 Data Structures

Economics
- ES 301 National Income Determination and Policy
- ES 302 Prices and Markets
  - or
- ES 661 Econometric Methods 1
- ES 662 Econometric Methods 2

Electrical Engineering
- EE 321 Fundamental Electron Devices
- EE 331 Circuits 1
  - or
- EE 570 Control Systems Theory and Practice
- EE 571 Synthesis of Linear Control

Industrial and Systems Engineering
- ISE 552 Digital Computer Techniques 2
- ISE 558 Hybrid Computer Techniques

Mathematics
- MS 441 Introduction to Modern Analysis I
- MS 442 Introduction to Modern Analysis II

Mechanical Engineering
- ME 460 Aircraft Propulsion
- ME 461 Mechanical Propulsion Systems 2

Nuclear Engineering
NES 401 Introduction to Nuclear Engineering 1
NES 402 Introduction to Nuclear Engineering 2
Statistics
STA 607 Design and Analysis of Experiments 1
STA 608 Design and Analysis of Experiments 2
or
STA 610 Introduction to Theoretical Statistics 1
STA 611 Introduction to Theoretical Statistics 2
Traffic Engineering
CE 513 Traffic Engineering Characteristics
CE 613 Traffic Engineering Operations and Analysis

INTERDISCIPLINARY ENGINEERING STUDIES

Students with at least a 2.5 grade-point average are eligible to participate in a special program which allows the student to develop a plan of study to meet his or her educational objectives. The program must satisfy the minimum engineering science course requirements and be approved by a committee consisting of three members of the engineering faculty and by the Associate Dean of the College. Completion of the program leads to a B.S. degree. Further information is available in the Office of the Associate Dean.

MATERIALS SCIENCE AND ENGINEERING

Engineering in all of its branches requires the effective use of materials. The curricula in Materials Science Engineering offer preparation in the solving of problems in the development, manufacture, and utilization of metallic and of certain non-metallic materials. Competence arises from a firm understanding of the fundamentals of chemistry, mechanics, solid state physics, and structure of materials. Thus, the Materials Engineer occupies a unique position between the science and the practice of engineering, which is advantageous in the wide variety of avenues of professional development open to him. Since progress with new engineering concepts is often dependent upon success in advancing the capabilities of materials, he is in constant demand in many segments of industry engaged in production, application, and research on materials and in private engineering practice. The Bachelor's Degree program provides a general materials science core together with specializations in metallurgy, ceramics and polymers. For the student whose primary interest lies in research, a graduate program leading to the degrees of Master of Science in Engineering and Doctor of Philosophy is provided. The entire offering of courses at both the undergraduate and graduate levels is designed also to furnish electives for engineers in other specialties, who desire a more extensive understanding of materials than is given by the required courses.

Degree Programs: The Materials Science and Engineering Department offers the following degrees: Bachelor of Science in Engineering (Metallurgical Engineering), Bachelor of Science in Engineering (Ceramic Engineering), Bachelor of Science in Engineering (Polymers Engineering), Master of Engineering, Master of Science, the Engineer Degree, and Doctor of Philosophy.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (METALLURGICAL ENGINEERING), (CERAMIC ENGINEERING) OR (POLYMERS ENGINEERING)

In addition to the 87 credits listed as Freshman and Sophomore requirements in the College of Engineering, the following courses are required for the various Bachelor of Science in Engineering degrees offered by the Department of Materials Science and Engineering.

Engineering College Core Courses

	Credits
EGR 183 Elementary Engineering Graphics	2
EE 302 Elements of Electrical Engineering	5
ESM 301 Statics	4
ESM 302 Dynamics	3
ESM 303 Mechanics of Materials	3
ISE 351 Numerical Techniques	2
ISE 420 Engineering Economy	3
MSE 300 Materials 1	4
STA 330 Statistics	3
CY 452 Physical Chemistry 2	4

Materials Science Core Courses

	Credits
MSE 302 Metallurgical Engineering	3
MSE 303 Ceramics Engineering	3
MSE 304 Polymers Engineering	3
MSE 310 Electronic Materials	3
MSE 350 Phase Diagrams	3
MSE 360 Analysis of Structure of Materials	3
MSE 390 Materials Processing Lab	1
MSE 391 Mechanical Testing Lab	1
MSE 392 Physical Testing Lab	1

Advanced Courses in Materials Science

	Credits
MSE 421 Microstructural Transformations in Materials	3
MSE 422 Materials Selection and Failure Analysis	4
MSE 440 Mechanical Behavior of Materials	4
MSE 452 Energetics and Kinetics in Materials Science	4
MSE 453 Stability of Materials	4
MSE 461 X-ray and Electron Metallography	4
MSE 471 Field Trips	1
MSE 493 Research in MSE 1	3
MSE 494 Research in MSE 2	3

To complete the requirements for the degree, each student must select one of the following 32 credit specializations.

Ceramic Specialty

	Credits
MSE 480 Ceramic Glazes	4
MSE 481 Physical Characteristics of Ceramics	3
MSE 482 Ceramic Microstructures	3
MSE 483 Electronic Ceramics	3
*Electives	19

Metallurgical Specialty

	Credits
MSE 402 Materials 2	3
MSE 403 Materials 3	3
MSE 420 Structure and Properties of Alloys	3
MSE 441 Mechanical Metallurgy 2	3
MSE 442 Metal Forming	4
MSE 450 Process Metallurgy 1	3
MSE 451 Process Metallurgy 2	3
MSE 491 Metallurgy Lab 2	1
MSE 492 Metallurgy Lab 3	1
*Electives	8

*At least 8 credits of electives must be non-technical.

Polymers Specialty

	Credits
MSE 546 Polymer Physics	3
MSE 561 Polymer Chemistry	3
Specified Electives	16
*Electives	10

Summary of Degree Requirements	Credits
Freshman and Sophomore Requirements	87
Engineering College Core Courses	33
Materials Science Core Courses	21
Advanced Courses in Materials Science	30
Specialty Courses	32
Total Requirements	203

*At least 8 credits of electives must be non-technical.

MECHANICAL ENGINEERING

The broad scope of Mechanical Engineering makes it possible for a student pursuing a degree in this field to prepare himself for a wide variety of engineering careers. The core of the curriculum in Mechanical Engineering is centered upon the fundamentals of scientific and mathematical logic. Individual programs are available wherein a student may develop specialized interests in the engineering aspects of heat, work, motion and energy conversion.

Degree Programs: The Mechanical Engineering Department offers the following degrees: Bachelor of Science in Mechanical Engineering, Master of Engineering, Master of Science, Engineer Degree, and Doctor of Philosophy.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

The following list of courses are those that must be completed by upper division students to become eligible for the Bachelor's degree in Mechanical Engineering:

Freshman-Sophomore Requirements 87
EGR 193 Engineering Graphics 3
EGR 194 Design Processes in Engineering 2
ESM 301 Engineering Mechanics-Statics 4
EE 301 Introduction to Electrical Engineering 5
EE 380 Electric Energy Engineering 3
EE 304 Electronics Systems and Instrumentation 4
EE 320 Electrical Engineering Laboratory 1 1
ESM 302 Engineering Mechanics-Dynamics 3
ESM 303 Mechanics of Materials 3
STA 330 Engineering Statistics 3
MSE 300 Materials 4
MSE 301 Materials 1 Lab 1
ME 320 Instruments and Measurements Laboratory 2
ME 380 Mechanisms and Kinematics 4
ME 360 Thermodynamics 1 5
ME 361 Thermodynamics 2 4
ME 362 Thermodynamics Laboratory 1
ME 381 Machine Dynamics 4
ME 382 Manufacturing Processes 3
ME 401 Professional Orientation 1
ME 402 Seminar 1
ME 430 Heat Transfer 1 3
ME 431 Heat Transfer 2 3
ME 445 Mechanical Engineering Analysis 3
EGC 311 Fluid Mechanics 4
ME 450 Fluid Dynamics 3
ME 480 Mechanical Vibrations 4
ME 482 Machine Analysis and Design 1 3
ME 483 Machine Analysis and Design 2 3
General Electives 8
Technical Electives 23

Total hours required 204

TYPICAL TECHNICAL ELECTIVES

Students enrolled in Mechanical Engineering are required to take 23 quarter hours of technical electives. The following is a partial listing that represents a cross-section of acceptable technical electives. A department counselor is available to assist in the planning of a logical and interesting elective program.

ME 280 Conceptual Design of Thermal and Mechanical Systems 3
ME 439 Dynamics of Rotating Machinery 3
ME 461 Mechanical Propulsion Systems 3
ME 465 Refrigeration and Air Conditioning 3
ME 467 Energy Conversion 3
ME 468 Mechanical Consulting Practice 3
ME 470 Solar Energy 3
ME 484 Machine Analysis and Design 3 3
ME 520 Control System Theory 3
ME 535 Biomechanics of Surgical Implants 3
ME 540 Engineering Acoustics and Noise Control 3
ME 550 Gas Dynamics of Internal Flow Systems 3
ME 561 Classical Thermodynamics 3
ME 580 Advanced Dynamics of Machinery 3
ME 581 Design Synthesis in Vibrations 3
ME 591 Gas Turbines and Jet Engines 3
ME 593 Mechanical Design 1 3
EGR 421 Engineering Graphical Analysis 3
MSE 422 Selection of Materials 3
MSE 453 Corrosion 3
ISE 420 Engineering 3

Certain courses in other engineering disciplines, and advanced physics and mathematics are also acceptable.

NUCLEAR ENGINEERING SCIENCES

Nuclear Engineering Sciences comprises those fields of engineering and science directly concerned with the release, control and safe utilization of nuclear energy. Applications range over such broad topics as the design, development and operation of nuclear reactor power systems to the applications of radiation in medicine, environmental sciences and other related disciplines. The nuclear engineer, by virtue of his engineering and science-based training, is in a unique position to contribute to the many diverse aspects of this major component of the energy field.

The nuclear engineering program has sufficient flexibility so that the proper choice of electives will allow emphasis in nuclear power technology, radiation safety, nuclear instrumentation, power management, radioisotope applications, and other specialized areas. A full complement of experimental facilities are available; these include: a 100 KW training reactor, a 4 MeV Van de Graaff accelerator, an IBM-1800 digital computer for on-line data acquisition and analysis, two analog computers, a hybrid computer facility, two subcritical assemblies, two neutron generators, plasma and MHD research facilities as well as a large amount of specialized nuclear instrumentation.

Degree Programs: The Department of Nuclear Engineering Sciences offers the following degrees: Bachelor of Science in Engineering (Nuclear Engineering), Bachelor of Science (Nuclear Engineering Sciences), Master of Engineering, Master of Science, Engineer, and Doctor of Philosophy. Also, students with special requirements may establish an interdisciplinary engineering program leading to the Bachelor of Science degree (see general College of Engineering regulations).

For further information and for assistance in curriculum planning students interested in nuclear engineering should contact the Nuclear Engineering Sciences undergraduate counselor.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (NUCLEAR ENGINEERING)

The following courses must be completed by upper division students to be eligible for the BSE(NE) degree. For the lower division requirements refer to the Pre-Engineering Curriculum.

Courses	*Credits*
Pre-Engineering Program	87
EGR 193 Engineering Graphics 1	3
MSE 300 Materials	4
PS 340 Modern Physics 1	3
EE 301 Introduction to Electrical Engineering	5
EE 320 Electrical Engineering Laboratory 1	1
EE 321 Fundamentals of Electron Devices	4
ESM 301 Engineering Mechanics-Statics	4

ESM 303 Strength of Materials..... 4
MS 409 Introduction to Differential Equations for Engineers and Physical Scientists..... 3
MS 412 Introduction to Vector Analysis..... 3
ENV 445 Fundamentals of Radiation Protection..... 4
ISE 351 Numerical Techniques..... 2
ME 360 Thermodynamics..... 5
NES 401 Nuclear Engineering 1..... 4
NES 402 Nuclear Engineering 2..... 4
NES 403 Nuclear Engineering 3..... 4
NES 404 Nuclear Engineering Laboratory 1..... 4
NES 405 Thermodynamics, Heat & Mass Transfer in Nuclear Systems..... 4
NES 430 Applications of Nuclear Radiation & Energy 1..... 4
NES 435 Interaction of Radiation with Matter..... 4
NES 440 Nuclear Instrumentation Systems..... 4
NES 451 Nuclear Power Reactor Design..... 4
NES 470 Advanced Concepts for Nuclear Energy..... 4
Nontechnical Electives..... 8
Engineering Science Electives..... 11
Design, or Technical Electives..... 11

Total 202

RECOMMENDED ENGINEERING SCIENCE ELECTIVES

Courses

NES 300 Survey of Nuclear Technology in Modern Life
ASE 301 Aerospace Analysis 1
ASE 302 Aerospace Analysis 2
CE 320 Hydraulics 1
CHE 343 Transport Phenomena
CHE 333 Chemical Engineering Thermodynamics 1
EGC 541 Tensor Fields and Fluid Dynamics
EE 352 Electromagnetic Fields 1
EE 451 Electromagnetic Fields 2
ESM 433 Engineering Analysis 3
ESM 513 Introduction to Mechanics of Continua
ESM 520 Fundamental Vibration Analysis
EGC 311 Fluid Mechanics
ESM 302 Engineering Mechanics — Dynamics
ENV 520 Environmental Biology
ME 361 Thermodynamics 3
ME 430 Heat Transfer 1
ME 431 Heat Transfer 2
ME 450 Fluid Dynamics
ME 467 Energy Conversion
MSE 310 Electrical Properties of Materials
MSE 401 Materials 2
MSE 402 Materials 3
MSE 403 Materials 4
MSE 480 Processes and Properties of Ceramic Materials

It should be noted that the above is not a complete list of acceptable engineering science electives but represents those commonly recommended.

DESIGN OR TECHNICAL ELECTIVES

Students are encouraged to concentrate several technical elective courses in one discipline of their choice in order to achieve solid familiarity with this "minor" field of study. The design or technical electives together with the engineering science electives, chosen in consultation with the departmental counselor, allow specialization in such areas as Reactor Engineering, Reactor Operations and Management, Radioisotopes and Nuclear Radiation Technology, Radiation and Living Systems, Associated Systems (e.g. Plasma Engineering, Special Nuclear Devices, Computer Systems).

The following technical elective courses are available through the department:

NES 301 History of Nuclear Energy
NES 500 Principles of Nuclear Reactors
NES 431 Applications of Nuclear Radiation and Energy 2
NES 432 Nuclear Processing and Separations
NES 533 Isotope Separation
NES 555 Reactor Fuel Cycles
NES 570 Principles of Nuclear Reactor Operations
ENV 445 Fundamentals of Radiation Protection

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE (NUCLEAR ENGINEERING SCIENCES)

The following courses must be completed by upper division students to be eligible for the BS(NES) degree. For the lower division requirements refer to the Pre-Engineering Curriculum. This degree is designed for those students interested in pursuing a nuclear science oriented program and expecting to continue their studies at the graduate level — typical emphasis areas are nuclear radiation protection, nuclear interactions and nuclear plasmas and fusion.

Courses	*Credits*
Pre-Engineering Program	87
ISE 351 Numerical Techniques	2
MSE 300 Materials 1	4
ESM 431 Engineering Analysis 1	4
ESM 432 Engineering Analysis 2	4
ESM 433 Engineering Analysis 3	4
EE 302 Elements of Electrical Engineering	5
PS 340 Modern Physics 1	3
ME 360 Thermodynamics	5
NES 400 Principles of Nuclear Reactors	4
NES 435 Interaction of Radiation with Matter	4
NES 498 Special Problems in NES	12
Option Electives	20
Other Electives	44
Total	202

TYPICAL OPTIONS

A. Nuclear Radiation Protection	*Credits*
NES 401 Introduction to Nuclear Engineering 1	4
NES 402 Introduction to Nuclear Engineering 2	4
NES 403 Introduction to Nuclear Engineering 3	4
NES 404 Nuclear Engineering Laboratory 1	4
NES 430 Applications of Nuclear Radiation and Energy 1	4
NES 570 Principles of Nuclear Reactor Operations	3
NES 580 Bionucleonics	3
NES 584 Radiation Effects on Humans	4
ENV 445 Fundamentals of Radiation Protection	4
NES 585 Radioisotope Theory and Techniques	5
HRP 331 Basic Anatomy and Physiology	3 to 5
B. Nuclear Interactions	
NES 401 Introduction to Nuclear Engineering 1	4
NES 402 Introduction to Nuclear Engineering 2	4
NES 403 Introduction to Nuclear Engineering 3	4
NES 404 Nuclear Engineering Laboratory 1	4
NES 655 Fundamental Aspects of Reactor Shielding	3
ENV 445 Fundamentals of Radiation Protection	4
ENV 440 Modern Physics 2	3
PS 445 Atomic and Modern Physics Lab	2
PS 460 Nuclear Physics	3
C. Nuclear Plasmas and Fusion	
NES 401 Introduction to Nuclear Engineering 1	4
NES 470 Advanced Concepts for Nuclear Energy	4
NES 670 Plasma Spectroscopy	4
NES 674 Thermonuclear Fusion	3
EGC 671 Introduction to Plasmas	4
PS 340 Modern Physics 1	3
PS 440 Modern Physics 2	3
PS 445 Atomic and Modern Physics Lab	2
PS 310 Electricity and Magnetism 1	3
PS 410 Electricity and Magnetism 2	3
PS 510 Electricity and Magnetism Fields	3
or	
EE 352 Electromagnetic Fields and Applications 1	4
EE 353 Electromagnetic Fields and Applications 2	3
PS 330 Optics 1	3
PS 430 Optics 2	3
PS 435 Optics Laboratory 2	2
or	
ASE 410 Introduction to Engineering Optics	4

COLLEGE REGULATIONS

English Requirement: Responsibility for the correct and effective use of his spoken and written English rests primarily upon the student. Any instructor in the College of Engineering may, at any time, with the approval of the Chairman of his department and the Dean of the College of Engineering, require a student who shows a deficiency in English to complete additional courses, over and above the curriculum requirements for his degree.

All students entering the College of Engineering except Engineering Technology students are required to take an English examination. This examination is to be taken by the student during his first regular quarter of enrollment in the College of Engineering after completing his English (CEH) course requirements. All undergraduate students are to comply with this requirement. The examination is offered during the first two weeks of class. Information regarding this examination is available in the office of the Associate Dean of the College.

Students who do not pass this examination in two attempts are required to complete the course EH 111, 3 credits, or EH 203, 2 cr.; foreign students—EH 241, 2 to 5 credits, with a grade of "C" or better. This becomes a requirement for graduation, and EH 111, EH 203, and EH 241 is course work over and above the regular course work specified for the degree.

Thesis: A thesis is not required of candidates for the baccalaureate degree in the College of Engineering. However, exceptional students may be granted permission by the Dean of the College, upon recommendation of the chairman of the department, to undertake a thesis in lieu of required or elective work in the department in which he is enrolled. Not more than six quarter hours will be allowed for such thesis work.

Credit for Special Work.

1. Upon the recommendation of the chairman of the department and the approval of the Dean, a student during his course of study may do practical work under approved supervision in industry. By submitting a satisfactory report, based upon a previously approved outline, and by passing an examination, college credit may be received not to exceed 5 quarter hours. Students will register for the departmental course 399 or 499 to receive such credit.

2. Where it is determined by the department concerned that an exceptional student may profit by supplementing his regular program of course work in a particular area, the student may register for special problems in his chosen field. The credit for such work should not exceed 9 quarter hours and requires approval of the Dean of the College of Engineering. To receive such credit, the student must register for the departmental course number 498.

A student may not have more than 12 quarter hours in total for work in industry, special problems, and High Honors project.

Elective Credit: It is the policy of the College that students, classified 3EG and higher, are not normally allowed to use 100 level courses for technical and non-technical elective credit. Foreign language credits at the 100 level may, within the discretion of the department, be credited as non-technical electives, provided that the student presents at least two quarters of work with a grade of "C" or better in the same language.

Average Required for Graduation: The requirement for graduation with a Bachelor's degree is a grade average of "C" or higher in all work taken after being classified as 3EG, and successful completion of all required courses.

Maintenance of Academic Standards: If at anytime after admission to the College of Engineering a student's honor point average falls below 2.00 he will be placed on college probation. A student may also be placed on probation if he does not maintain normal academic progress in the program of study in which he is engaged. The section of this catalog on 'Student Regulations' authorizes any college to set its own standards for exclusion of a student who fails or refuses to maintain normal academic progress. It is the policy of the College of Engineering that any undergraduate student who withdraws from the University for the second time will be automatically placed upon college probation which will continue until his graduation. Any student on college probation for this reason who withdraws for a third time from the University will be ineligible for further registration in the College of Engineering. Failure to satisfactorily complete the terms of his probation will result in the ineligibility of the student for further registration in the College of Engineering.

Advanced ROTC: Some engineering students may elect to enroll in the advanced ROTC program offered by the Army, Navy and the Air Force. Graduates of these programs are commissioned as second lieutenants or ensigns as described elsewhere in this catalog.

It is the policy of the Engineers' Council for Professional Development which accredits engineering curricula, that student enrollment in advanced ROTC programs represents a second career objective quite apart from that of professional engineering. Accordingly, advanced courses in Military Science are only acceptable on a limited basis, with department approval, for credit as technical or non-technical electives toward a degree in engineering.

Correspondence Courses: (See Student Academic Regulations — "Degrees and Graduation.")

A student in the College will not be permitted to register for and work on correspondence courses while enrolled in the College unless he has special permission of the Dean of the College and the Registrar. A student on probation must have permission of the Dean to register for correspondence courses when not enrolled in the College. A student who has been suspended will not be permitted to take correspondence courses for credit until the suspension is removed. A grade of "C" or better is required to receive credit for a correspondence course.

Dean's List:

Each quarter there is compiled a Dean's List of those students whose work for the preceding quarter has been of a high order. This recognition is accorded to students in the College of Engineering who:

a. Have earned a minimum of 14 hours of credit during the quarter;

b. Have made a 3.2 average during the quarter; and

c. Have no grade below "C" for the quarter.

Drop Policy: Students classified 1 and 2EG are allowed a total of three drops after the published drop-date. Similarly, students classified 3, 4, 5, and 6EG are allowed a total of two free drops. A student with an initial course load of 15 credits or more will be permitted to drop a course without penalty or use one of the free drops, provided this is done by the end of the sixth week of class and the total credits remaining are 12 or more. There is no petition appeal from this policy.

HONOR STUDENTS

Honor Student Designation: To be eligible for the designation of Honor Student in the College of Engineering, a student must have earned an honor point average of 3.30 or higher in all work taken after being classified as 3EG, must have been registered in the College of Engineering for at least one quarter, and must have earned at the University of Florida, a minimum of 16 credit hours while classified as 3EG or higher. Also the academic record, as regards progress and conduct, must be such as to merit the recommendation of the major department. So long as the student maintains the necessary requirements he or she may, as an honor student, be granted special consideration in review of a petition to substitute courses.

Graduation with honors may be accomplished upon completion of all required work of the major department

with the honor point average of 3.30 or higher and upon the recommendation of the major department.

Graduation with High Honors: An Honor Student may be invited to High Honors candidacy under the following condition:

1. The student must have secured an honor point average of at least 3.50 in all work taken after being classified as 3EG.

2. The faculty of the major department must recommend the student for invitation to High Honors after review of the record.

When the invitation to participate in High Honors work has been accepted in writing by a student, a High Honors Committee will be appointed by the Dean upon the recommendation of his department chairman. It shall be composed of two members of the faculty of the student's major department and one member of the University faculty selected from some other department. The Committee will approve the nature of the student's High Honors project and thesis. The project with thesis is not normally waived unless the student has an honor point average of 3.80, but this is discretionary with the Committee in exceptional cases. Not later than the second week of classes in the student's last quarter, a signed statement will be prepared by the Committee as to reasons for waiver of the project or thesis requirement for a student having an honor point average between 3.50 and 3.79. The Committee will consider the student's academic aims in the planning of his program, and will supervise the High Honors project and/or oral examination. The faculty of the major department will make recommendations based upon the Committee's findings when the candidate has satisfied all requirements for graduation with High Honors.

Graduation with High Honors may be accomplished upon completion of all required work of the major department with honor point average of at least 3.50 and upon the recommendation of the major department.

When a high honors project is a part of the program, credit may be obtained by prior registration in courses numbered 498 carrying the appropriate departmental prefix. Not more than a total of twelve credit hours will be allowed for high honors work, special projects, and practical work in industry; and registration for variable credit of one to six hours per quarter will be dependent upon committee recommendation.

COOPERATIVE EDUCATION PROGRAM

A number of industries, in cooperation with the College of Engineering, have established a cooperative program for engineering education which provides for industrial cooperation in educating the engineering student by providing employment in alternate quarters that are spent in learning techniques and industrial applications under supervision in selected industrial and Government facilities.

Students may apply for the cooperative program during their Freshman year by contacting the office of the Dean. Acceptance of the student is based on his academic standing and the availability of a cooperative assignment. Students in the cooperative program will require approximately five years to earn the selected engineering degree. The student normally completes his first and last years of study in residence at the University.

Community and Junior College students who have been on a cooperative education program may continue their arrangement with the same employer with the approval of the Dean's Office.

The quarters spent in industry are designed to give the student experience as an employee and are intended to be educational as well as productive. He is required to experience the usual employment procedures of interviews, job assignment, training, etc. He receives a salary commensurate with the assignment and his assignments increase in difficulty with each succeeding industrial period to parallel his academic advancement.

Upon assignment to an industry, the cooperative student becomes a member of a two-man team. He alternates with his partner between industrial assignments and his classroom schedules each quarter. One or the other member of the team is always in an industrial assignment so as to give the cooperating industry a continuity in the program.

Applications also may be made by men in industry who wish to complete their Engineering College course work and need credit for one year or more of college work to earn a degree.

Industrial organizations wishing to cooperate in this plan may communicate with the Dean's office.

Students will register immediately prior to each industrial phase of the program with the College of Engineering for participation in the Industries Cooperative Education Program.

LIFE SCIENCES, BIOMEDICAL ENGINEERING AND PRE-MEDICAL PROGRAMS

There is a growing need in our society for individuals trained in both engineering and the life sciences. Qualified individuals so trained will probably find a diversity of career paths open to them. This preparation particularly suits a candidate for admission to medical school, but it qualifies him equally to pursue an engineering career in the specialized fields of bioengineering or environmental engineering, or continue his education with graduate study in biomedical engineering, or the life sciences.

Several departments of the College, after consultation with the College of Medicine, have established special programs in this field. In general, these are of the same length as the conventional curriculum, and were achieved by substituting for groupings of electives twelve credits in organic chemistry and eleven in zoology. The student who is interested in these programs should consult his engineering department adviser at the earliest practicable date, since certain departments expect the student to begin his work in these specialized areas early in his undergraduate career.

Environmental Studies Minor Program

A program for a minor (with certificate) in Environmental Studies is available for anyone with a major in the following degree programs of the College of Engineering:

Agricultural Engineering
Bachelor of Science (Agricultural Engineering)

Chemical Engineering
Bachelor of Science in Chemical Engineering

Engineering Science, Mechanics and Aerospace Engineering
Bachelor of Science (Engineering Science)

Industrial and Systems Engineering
Bachelor of Science (Systems Engineering)

Mechanical Engineering
Bachelor of Science in Mechanical Engineering

Nuclear Engineering Sciences
Bachelor of Science (Nuclear Engineering Sciences)

The program is designed to be of interest to students concerned with environmental issues. Electives can be structured around an environmental theme, giving experience in an area that may expand career opportunities and make education more meaningful.

Students electing to participate in the Environmental Studies Minor Program would need to fulfill all College and Departmental requirements for the degree program in which he or she is enrolled. In addition, electives would be selected in consultation with his or her departmental advisor and the Environmental Studies Adviser (210 Bartram

West) such that the requirements for the minor program are satisified. These electives would consists of a minimum of 20 quarter hours of environmental courses, at least one from each of the Biological, Physical and Social Sciences with a minimum of 8 quarter hours in one.

The College of Engineering also offers a curriculum leading to the Bachelor of Science (Environmental Engineering Sciences) administered by the Department of Environmental Engineering Sciences. Students fulfilling the requirements for this degree would generally satisfy all requirements for the Environmental Studies Certificate. These students will be awarded the Certificate if they choose to request one.

Students interested in the minor should check with the Environmental Studies Office in 210 Bartram West and register their intended course of study to insure that the certificate will be received upon graduation.

FLORIDA ENGINEERING AND INDUSTRIAL EXPERIMENT STATION

Although the Florida Engineering and Industrial Experiment Station has developed a national and international reputation for excellence in research, its most important contributions are: (1) prosecution of research for the benefit of the State's industries, health, welfare, and public service, and (2) the intangible values offered to students participating in research projects while attaining their education.

Such opportunities, when grasped, bring the students into direct contact with the research specialists who constitute the faculty — the same faculty serve both the Station and the College. Not only do the students assist the professors working on specific research problems, but in many cases they make a direct contribution, on their own initiative, in meeting the great challenges of this era through research. The students thereby profit immeasurably from their association with the engineers engaged in research projects and from the opportunity to participate in using the principles of engineering for the solution of fundamental and applied problems.

Each year a series of "Special EIES Projects" are selected that are of high priority to Floridians. Examples are projects on regional water management, beach stabilization, pollution abatement, power plant site selection, stream improvement and technology transfer. The funding of these projects is often enhanced by support from municipal, state or federal agencies, as well as from industries and foundations.

All facilities of the College are available for instructional and research purposes. Graduate students may select fundamental problems under investigation in the research projects of the Station for the subject matter of theses that are required for the graduate degrees in engineering.

Whenever feasible, students are given an opportunity to observe and participate in research projects of the Station. Students who may benefit by additional laboratory work, and who have the necessary educational experience, may be given special permission to carry on individual experimentation in research.

MASTER OF ENGINEERING DEGREE

See the *Graduate Catalog.*

The Master of Engineering degree is designed to meet the needs of advanced technical training by the employees in Florida Industry, those students who wish additional training before entering industry, and those interested primarily in research or teaching.

The degree contains both a thesis and non-thesis option and is offered on campus and at Eglin Air Force Base. A student must have an undergraduate degree in engineering from an E.C.P.D.accredited curriculum, or equivalent, to qualify for this degree.

MASTER OF SCIENCE DEGREE

See the *Graduate School Catalog.*

All instructional departments in the College of Engineering offer graduate work leading to the degree Master of Science.

There is considerable demand for engineers with graduate degrees, particularly in research, design and development work, and teaching. The facilities of the College, including the Florida Engineering and Industrial Experiment Station, are exceptionally well adapted for graduate study. Any undergraduate student whose scholastic average is well above average is urged to consider seriously the possibility of doing graduate work. The Dean and the various members of the staff of the College will be happy to confer with students in regard to graduate study.

ENGINEER DEGREE

See the *Graduate School Catalog.*

Industry has found that engineers holding either the master's or doctor's degree contribute significantly in highly sophisticated operational and developmental projects and missions which require engineering teams with an unusually high level of technical competence. Many of the projects and problems require education beyond the master's level especially for those engineers who received their master's several years ago.

To meet the need of those engineers who need additional technical depth diversification in their education beyond the master's degree the College of Engineering offers the degree of Engineer.

This degree requires a minimum of 45 quarter hours of graduate work beyond the master's degree and thus falls midway between the master's and Ph. D. in the amount of work required. No minimum residence requirement is stipulated. It is not to be considered as a partial requirement toward the Ph. D. degree. The students' objective after the master's should be the Ph. D. or the Engineer degree.

DOCTOR OF PHILOSOPHY DEGREE

See the *Graduate School Catalog.*

The Doctor of Philosophy Degree is awarded for major work in Aerospace Engineering, Chemical Engineering, Civil Engineering, Electrical Engineering, Engineering Mechanics, Environmental Engineering Sciences, Mechanical Engineering, Metallurgical Engineering, Nuclear Engineering, and Systems Engineering (Operation Research).

The general requirements for this degree are included in this catalog under the Graduate School. Further details may be secured from the Dean of the Graduate School or the Dean of the College of Engineering.

College of Fine Arts

ART
FINE ARTS
MUSIC
THEATRE
UNIVERSITY GALLERY

College of Fine Arts

GENERAL STATEMENT

The College of Fine Arts provides instruction for students who seek professional careers in the Fine Arts; it offers to other students of the University creative and cultural opportunities in these arts; and it performs appropriate related services for the citizens of Florida. The College has developed from the School of Architecture established in 1925. Its organization now includes Departments of Art, Music and Theatre; the Center for Latin American and Tropical Arts and the University Gallery.

PROGRAMS

The College offers professional curricula leading to undergraduate degrees in:
Art
Fine Arts
(Creative Photography, Painting, Printmaking, Sculpture, History of Art, Crafts)
Graphic Design
Art Education
Music
Music Education
Theatre

The College also offers at the Graduate level professional programs in Art, Music, Music. Education, and Theatre. Each undergraduate and graduate program stresses thorough mastery of the principles underlying its field and the development of professional skill in their creative application to practice.

Major programs of study in Art, Music and Theatre, leading to the degree of Bachelor of Arts, are offered by the departments of this college. Requirements for this degree are described under the College of Arts and Sciences.

General Courses: The College offers a number of courses open to all students of the University who wish to broaden their cultural background in the arts.

Public Programs: The College sponsors each year numerous public lectures, concerts, exhibits, festivals, special conferences, and clinics in which faculty and eminent visiting scholars and practitioners participate.

LIBRARY FACILITIES

The University Libraries, the Music Library, and the Fine Arts Library together provide an important working collection of publications and audio-visual materials for undergraduate and graduate studies. These resources include books, government documents, leading American and foreign periodicals, color prints, and slides. There is an extensive collection of published and recorded music of all types. Music listening facilities allow convenient use of these materials.

COUNSELING

Students planning to major in any program of study in the College of Fine Arts should see the proper departmental chairman or adviser as soon as possible.

The counseling program of the College is designed to make available to all students the services of faculty members highly qualified in their respective professions who can assist in the selection of a field of study, give understanding and sympathetic counsel regarding the student's personal or academic problems, and advise on the selection of employment after graduation.

STUDENT AID

Students interested in part-time employment, assistantships, fellowships, loans, prizes, and awards are referred to individual departments and information provided by the Student Financial Aid Office, University of Florida, Gainesville, Florida. Music performance scholarships are available.

FIELD TRIPS

Each year a number of field trips are arranged to give students an opportunity to broaden and extend their educational experience through study of outstanding works of art. Students frequently combine such studies with attendance at state and national meetings of the professional organizations in their respective fields.

TEACHER'S CERTIFICATE

In conjunction with the College of Education, the College of Fine Arts offers programs for teaching Art and Music in the public schools in grades K through 12. These programs are listed in both sections under the College of Education and the College of Fine Arts. For certification consult the College of Education or the Academic Adviser in Art or Music.

STUDENT WORK

The College reserves the right to retain student work for the purpose of record, exhibition, or instruction.

STUDENT ORGANIZATIONS

Student organizations take an active part in the educational program of the College. Included in these organizations are the Florida Art Society, the Music Educators National Conference student member Chapter No. 257, Kappa Kappa Psi, Tau Beta Sigma, Phi Mu Alpha Sinfonia, Sigma Alpha Iota, Pi Kappa Lambda, and student chapter of the American Guild of Organists. The College encourages and assists students in promoting close relations with professional groups and societies.

GRADUATE DEGREES

The College offers the degrees Master of Fine Arts with majors in Art, Music, and Theatre, and in cooperation with the College of Education, the Master in Education with a major in Music Education. To meet the needs and goals of each student, graduate programs are prepared individually in consultation with a designated member of the Graduate Faculty of the College.

Each department has majors leading to the degree Master of Fine Arts.

Art: The degree Master of Fine Arts, major in Art provides a concentration of study in studio or history. Although holders of the Bachelor of Fine Arts degree may technically complete the requirements in one academic year, two years are normally required.

Music: The degree Master of Fine Arts, major in Music is designed primarily for those who wish to prepare themselves for careers as teachers in colleges and universities, performers, music historians, music critics, church musicians, composers and conductors. Recipients of this degree will be prepared to continue graduate study toward a doctoral degree in the various areas of music cited above.

The Department of Music cooperates with the College of Education in offering courses leading to the following degrees: Master of Education in music education (non-thesis degree); Master of Arts in Education in Music education (thesis degree); Specialist in Education: Doctor of Education in college music teaching (emphasis in music education); Doctor of Philosophy in college music teaching (emphases in music history, literature and criticism, music theory and composition, performance practices, and music education).

The Master of Fine Arts degree in music (emphases in music history, literature and criticism, music theory and composition, applied music, sacred music, and conducting) is offered in the College of Fine Arts.

During the week of the student's first registration, he/she must take placement examinations in applied music, in music history and literature, in music theory, and in music education for the music education major. Music education majors must satisfy requirements for music teaching certification in Florida before the degree is awarded.

Theatre: The degree of Master of Fine Arts, major in Theatre is designed primarily for those interested in production oriented theatrical careers. The program provides advanced training in the craft skills essential to the theatre artist, and their subsequent application in public and studio productions. Specialization is offered in the Directing-Acting area and in the area of Design and Technical Theatre.

For further information see the Graduate School catalog.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Fine Arts encourage applications from qualified students from all cultural, racial, religious and ethnic groups. Listed below are the specific requirements for admission to this College. It should be understood, however, that minimum requirements are given and that admission to the College is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. Limitations in staff, faculty and facilities make it necessary that the College estalish quotas for the admission of students in most programs. Therefore, eligible applicants will be considered for admission to the College of Fine Arts within established quotas. A student's total record, including educational objective, pattern of courses previously completed, quality of previous academic record, and test data will be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential, on the basis of their total record, indicates the greatest likelihood of success in the program requested.

University College Students: To be eligible for admission to the College of Fine Arts, a University College student (except a student majoring in music) must have: 1) earned at least 93-96 quarter hours (varies with curricula) with the minimum average of "C" or higher in the courses required by the appropriate curriculum specified for Freshman and Sophomore years; and 2) passed all required pre-professional courses within those two years with a minimum grade average of "C". Admission to programs restricting enrollment because of space limitations may require that the student earn higher than the 2.0 (C) average minimum. Quotas will limit the admission of students based upon the overall academic record, grade point average and apparent potential for successful completion of the program. Music majors may apply to the College of Fine Arts after one quarter in the University College.

Minimum grades required in certain courses and other special requirements for admission to various curricula in the College of Fine Arts should be obtained from the Dean's Office or from the Departmental adviser.

Transfer Students: To be eligible for admission to the College of Fine Arts a transfer student must satisfy the minimum requirements for admission as specified in the ADMISSIONS section of this catalog. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Fine Arts:

A. Transfers from four-year colleges.

Students attending four-year colleges should take courses similar to the appropriate program as outlined in this catalog.

B. Community College Transfers to Departments within the College.

1. *Curricula in Art:* Where possible the junior college program should include: two basic design courses, a course in color theory, two free-hand drawing courses, one basic painting course and a year of art history. Courses not available at the junior college will be taken after transfer to the University.

2. *Curricula in Music:* The junior college program should include two years of music theory, including ear training, sight singing and keyboard harmony; two years of applied music major study; and two years of ensemble. The primary criterion for admission to any music major program is proficiency in musical performance. Students are admitted to the program following completion of a satisfactry in-person or tape-recorded audition, and completion of a theory placement test.

3. *Curriculum in Theatre:* If available, theatre appreciation, oral interpretation, voice and articulation, acting, theatre practice, stage make-up and stage movement should be taken at the community college.

Provisional Admission: The professional programs of the College demand that preprofessional course-work begin with the Freshman year. Realizing that most of the schools from which transfer students come may not offer all such courses, the College provides an opportunity for admissable students to remove these deficiencies. Qualified transfer students, indicating potential, but not having completed all preprofessional prerequisites, may be admitted provisionally *based upon space available.* Due to limitations in space and faculty all qualified students may not be admissable. Students admitted provisionally will register for the courses necessary to eliminate deficiencies in the shortest time possible. Until these deficiencies are removed they will be required to maintain a "C" (2.00) average to be eligible for continued registration and may be prevented from registering for courses numbered 300 or above.

MAXIMUM AND MINIMUM LOADS

Fifteen to eighteen quarter hours in any regular quarter shall be considered a normal load. A student may be permitted to register for more than eighteen quarter hours when, in the opinion of his adviser, the quality of his record justifies this. The minimum load for a full-time student in the University during a regular quarter is 12 hours. At the time of registration a student, with the approval of the Dean, may register for less than twelve quarter hours. If a student wishes to drop courses during the quarter, he must have the approval of the College Committee on Student Petitions.

NORMAL ACADEMIC PROGRESS

The student will have maintained normal academic progress when he earns a minimum grade point of 2.0 (C) average for all work attempted while classified in the College. In addition, he is required to take courses in a sequence as specified by his departmental chairman or adviser. The student may be excluded from a program of study in the College if he fails or refuses to maintain normal academic progress.

DEAN'S HONOR LIST

Undergraduate students who demonstrate excellence in their academic work by completing a full course load (minimum of 12 quarter hours credit) in a quarter term and achieving a grade point average of 3.5 or better will earn a position on the Dean's Honor List. Students whose term averages are below 3.5 due to grades of I, X, etc. are not eligible.

GRADUATION REQUIREMENTS

To be eligible for graduation, the student must earn a minimum grade point average of 2.0 (C) for all work attempted in the appropriate curriculum while classified in the College. Courses taken while enrolled in another College may not apply toward the calculation of the average. Specific grade requirements for various curricula may be obtained from the department or Dean's Office.

Students planning to enter the Graduate School should maintain a 3.0 (B) average in Upper Division work.

GRADUATION WITH HONORS AND HIGH HONORS

The faculty will consider recommending students for graduation with HONORS or HIGH HONORS on the following criteria: (a) grade point average (b) distribution and quality of subject matter studied, (c) evaluation of the students by the faculty, and (d) other pertinent qualities of the student and his work.

The student will be considered for HONORS upon earning a minimum 3.2 academic average or for HIGH HONORS upon earning a 3.5 academic average. The average will be calculated on all work attempted while the student is classified in the College of Fine Arts. Transfer credits will be excluded from the average; HONORS or HIGH HONORS may be awarded upon a minimum of 72 quarter hour credits taken at the University of Florida.

I. CURRICULA IN ART

Grissom, E.E., *Chairman and Adviser*

The Department of Art offers undergraduate majors in the College of Fine Arts leading to degrees of Bachelor of Arts in Art, Bachelor of Fine Arts, Bachelor of Design and Bachelor of Design in Art Education. Junior and senior course requirements in the curricula are given below.

For the Freshman and Sophomore programs of study, consult the section of the catalog entitled The University College. For further information concerning any of these curricula see the Chairman of the Department of Art.

In addition, the Department of Art offers a major in art in the College of Arts and Sciences leading to the degree of Bachelor of Arts. Requirements for this degree are given in the listing of the College of Arts and Sciences.

The curricula in the College of Fine Arts are intended for students who plan to enter professional careers in fine arts or design, to teach art in the public schools or in the universities and colleges or to enter graduate study.

The major in art in the College of Arts and Sciences should be chosen by those students whose interest is in a liberal education with emphasis upon the visual arts.

1. Curricula in General Arts. Leading to the Degree of Bachelor of Arts in Art.

The curricula in General Arts provide for majors in (a) Fine Arts — creative photography, painting, printmaking and sculpture, (b) the History of Art, (c) Crafts, (d) Graphic Design, and (e) Art Education. All students entering the Department of Art at the undergraduate level will be enrolled in the curricula in General Arts. This degree program offers the student all the content advantages of the departments professional B.F.A./B.D.programs while reducing the actual time commitment by one quarter or 16 hours. (Also see (2) Curricula in Fine Arts (B.F.A.), (3) Curricula in Graphic Design (B.D), and (4) Curricula in Art Education (B.D.).

[a] Major in Fine Arts

JUNIOR YEAR

	Credits
Studio Major	8
Art History	12
ART 350-351 Intermediate Drawing 1 and 2	8
Art Electives (355, 357, 341, 353, 280)	12
*General Electives	4
Total	44

SENIOR YEAR

	Credits
Studio Major	10
Art History	4
ART 430 Mid 20th Century Art	4
*General Electives	8
*Electives	14
Total	40

*Electives must include a minimum of twelve credits outside the Department of Art in courses of a non-studio nature.

The studio major should consist of four courses (18 hours) in a single area e.g., creative photography, painting, printmaking, sculpture, etc.

[b] Major in Art History

JUNIOR YEAR

	Credits
Art History	16
ART 309 Criticism of Art	4
History of World Civilization or History of Philosophy	10
Foreign Language	15
Total	45

SENIOR YEAR

	Credits
Art History	20
Foreign Language	4
History of World Civilization or History of Philosophy	5
Electives	6
ART 430 Mid-20th Century Art	4
Total	39

[c] Major in Crafts

JUNIOR YEAR

	Credits
ART 280 Beginning Ceramics	4
ART 380-381 Intermediate Ceramics 1 and 2	8
ART 383-384 Jewelry & Metalwork 1 and 2	8
Art History	12
*General Electives	12
Total	44

SENIOR YEAR

	Credits
ART 480 Advanced Ceramics	10
ART 430 Mid-20th Century Art	4
Art History	4
ART 341 Photography	4
ART 357. Sculpture 1	4
*General Electives	14
Total	40

*Electives must include a minimum of twelve credits outside the Department of Art in courses of a non-studio nature.

[d] Major in Graphic Design

JUNIOR YEAR

	Credits
**ART 260 Lettering	4

ART 360-361 Layout 1 and 2	8
ART 362 Typography	4
ART 368 Graphic Design	4
ART 350-351 Intermediate Drawing 1 and 2	8
Art History	12
**ART 341 Photography	4
*Electives (ART 303)	4
Total	48

SENIOR YEAR

	Credits
ART 460 Advanced Graphic Design	5
ART 467 Projects in Graphic Design 1	5
ART 468 Projects in Graphic Design 2	5
Art History	4
ART 430 Mid-20th Century Art	4
*Electives	13
Total	36

*Electives must include a minimum of twelve credits outside the Department of Art in courses of a non-studio nature.

**ART 260 and/or ART 341 should, if possible, be completed in the sophomore year.

[e] Major in Art Education

The curriculum in Art Education is designed for students who plan to teach art in the public schools. Students completing this curriculum, which is offered in cooperation with the College of Education, are qualified for certification as teachers of art in the state of Florida. Students are urged to become familiar with the requirements as listed under the College of Education dealing with admission to the Advanced Professional Sequence.

JUNIOR YEAR

	Credits
ART 260 Lettering	4
ART 280 Beginning Ceramics	4
EDF 345 Human Growth and Development	5
EDF 300, 320, 410, or 431	5
SCA 401 Professional Studies in Art Education	5
SCA 402 Professional Studies in Art Education	5
SCA 403 Professional Studies in Art Education	6
ART 357 Sculpture	4
*Art Electives (major)	4
	42

SENIOR YEAR

	Credits
ART 355 Printmaking	4
EDE 400 Elementary School Today	4
EDS 400 The Secondary School Today	5
EDE 405 The Practicum; K-12	16
*Art Electives (Major)	9
ART 430 Mid-20th Century Art	4
	42

*Art electives must include such advanced courses as are necessary to complete state certification requirements and must include a minimum of three closely related courses in a single advanced area (fine arts, crafts, etc.)

Students wishing to pursue more extensive study in the professional B.F.A./B.D. programs may request a degree transfer at the successful completion of their junior year. Basic requirements in support of such a request are: Senior standing; a "B" average; recommendation of major professor and a portfolio to be judged by a committee of three (two instructors from the major area and the chairman or his designated representative). Consult the department during junior year studies for this procedure.

2. **Curricula in Fine Arts,** leading to the Degree of Bachelor of Fine Arts.

The curricula in Fine Arts provide for majors in (a) Fine Arts — creative photography, painting, printmaking and sculpture, (b) the History of Art, and (c) Crafts — ceramics, jewelry and metalwork. Students who plan to enter a program of graduate study in art after receiving the baccalaureate degree are advised to register in one of these curricula. Upon completion of graduate work students entering these fields are qualified for positions in museums and art galleries, as instructors of art at the college and university level, or for independent activity as creative artists.

[a] Major in Fine Arts

JUNIOR YEAR

	Credits
ART 309 Criticism of Art	4
ART 350-351 Intermediate Drawing 1 and 2	8
**ART 353-354 Painting 1 and 2	8
ART 355 Printmaking 1	4
ART 357 Sculpture 1	4
History of Art	8
*Electives	14
Total	50

SENIOR YEAR

	Credits
ART 341 Photography	4
ART 430 Mid-20th Century Art	4
ART 450 Advanced Drawing	8
Advanced Painting, Photography, Printmaking or Sculpture	15
History of Art	8
*Electives	11
Total	50

*Electives must include a minimum of twelve credits outside the Department of Art in courses of a non-studio nature.

**The Example given above is for a major in painting. If a student were to major in photography, printmaking, sculpture, etc., he would substitute Photography 2 (Art 342), Printmaking 2 (ART 356) or Sculpture 2 (ART 358) etc., for Painting 2 (ART 354).

[b] Major in the History of Art

JUNIOR YEAR

	Credits
History of World Civilization or History of Philosophy	13
Foreign Language	10
History of Art	24
Electives	4
Total	51

SENIOR YEAR

	Credits
History of Philosophy or History of World Civilizations	10
Foreign Language	8
History of Art	20
ART 430 Mid-20th Century Art	4
Electives	7
Total	49

[c] Major in Crafts

JUNIOR YEAR

	Credits
ART 280 Beginning Ceramics	4
ART 309 Criticism of Art	4
ART 357 Sculpture 1	4
ART 380-381 Intermediate Ceramics 1 and 2	8
ART 383 384 385 Jewelry and Metalwork, 1, 2 and 3	12
History of Art	8
*Electives	9
Total	49

SENIOR YEAR

	Credits
ART 341 Photography	4
ART 358 Sculpture 2	4
ART 430 Mid-20th Century Art	4
Advanced Ceramics or Jewelry and Metalwork	15
History of Art	8

*Electives	16
Total	51

*Electives must include a minimum of twelve credits outside the Department of Art, in courses of a non-studio nature.

3. **Curriculum in Graphic Design,** leading to the Degree of Bachelor of Design.

The curriculum in Graphic Design is a professional program. Included in the curriculum are a series of courses in design, drawing and painting, the history and theory of art; and, in the professional field, lettering, layout, graphic design, photography and illustration. Students receiving the Bachelor of Design degree in this curriculum are well qualified for professional careers in graphic design and related fields.

JUNIOR YEAR

	Credits
**ART 260 Lettering	4
ART 303 Methods and Materials of the Artist	4
ART 309 Criticism of Art	4
**ART 341 Photography	4
ART 360-361 Layout 1 and 2	8
ART 362 Typography	4
ART 368 Graphic Design	4
ART 350-351 Intermediate Drawing 1 and 2	8
History of Art	8
*Electives	2
Total	50

SENIOR YEAR

	Credits
ART 353 Painting 1	4
ART 430 Mid-20th Century Art	4
ART 460 Advanced Graphic Design	5
ART 467 Projects in Graphic Design 1	5
ART 468 Projects in Graphic Design 2	5
History of Art	8
*Electives	19
Total	50

*Electives must include a minimum of twelve credits outside the Department of Art.

**ART 260 and/or ART 341 should, if possible, be completed in the Sophomore Year.

4. **Curriculum in Art Education** (College of Fine Arts—College of Education), leading to the Degree of Bachelor of Design in Art Education.

The curriculum in Art Education is designed for students who plan to teach art in the public schools. Students completing this curriculum, which is offered in cooperation wih the College of Education, are qualified for certification as teachers of art in the State of Florida. Students are urged to become familiar with the requirements as listed under the College of Education dealing with admission to the Advanced Professional Sequence.

JUNIOR YEAR

	Credits
ART 260 Lettering	4
ART 280 Beginning Ceramics	4
ART 380 Intermediate Ceramics	4
EDF 345 Human Growth and Development	5
EDF 300, 320, 410, or 431	5
SCA 401 Professional Studies in Art Education	5
SCA 402 Professional Studies in Art Education	5
SCA 403 Professional Studies in Art Education	6
ART 357 Sculpture	4
*Art Electives	8
Total	50

SENIOR YEAR

	Credits
ART 355 Printmaking	4
ART 430 Mid-Twentieth Century Art	4
EDE 400 Elementary School Today	4
EDS 400 The Secondary School Today	5
*Art Electives	13
General Electives	4
EDE 405 The Practicum; K-12	16
Total	50

*Art Electives must include such advanced courses as are necessary to complete state certification requirements and must include a minimum of three closely related courses in a single advanced area (fine arts, crafts, etc.)

II. CURRICULA IN MUSIC

Leading to the Degrees Bachelor of Music and Bachelor of Music Education.

Hale, J.P., *Adviser*

NOTE: Music majors must be admitted to the music major program by the Department of Music. Prospective majors should see the Department of Music Chairman as early as possible in their careers.

Requirements for the Degree: To qualify for a degree in music, a student must complete the courses listed below to the satisfaction of the music faculty. The faculty reserves the right to require a minimum grade of "C" in any course required for graduation.

A piano proficiency examination is required for all music majors. The student must take Piano Skills, until he has met this requirement. A diagnostic theory examination is required of all students entering the Upper Division.

1. **Curriculum for Applied Instrumental Major.** Bachelor of Music Degree.

JUNIOR YEAR

Music Performance Area	Credits
Applied major	9
Junior Recital is required	
Applied Minor	3
Ensemble	3
Courses	
MSC 317, 318, 319 History of Music	12
MSC 303 Form and Analysis	4
MSC 403 or 404 Counterpoint	4
Three courses from CPS; CBS; CMS; PS 485	9
Elective	7
Total	51

SENIOR YEAR

Music Performance Area	Credits
Applied major	9
Senior Recital is required	
Applied Minor	3
Ensemble	3
Courses	
MSC 305, Instrumentation and Arranging	4
MSC 405, Conducting	4
MSC 496, Projects and Problems	5
Electives	23
Total	51
Total minimum credits	198

2. **Curriculum for Applied Voice Major.** Bachlor of Music Degree.

JUNIOR YEAR

Music Performance Area	Credits
Applied major	9
Junior Recital is required	
Ensemble	3
Piano (1 year beyond MSC 76) minimum credits	5
Courses	
MSC 317, 318, 319, History of Music	12
Foreign Language	10
Three courses from CPS; CBS; CMS; PS 485	9
Electives	3
Total	51

SENIOR YEAR

Music Performance Area	*Credits*
Applied major	9
Senior Recital is required	
Ensemble	6
MSC 471, 472, Language and Diction for Singers	2
Courses	
MSC 303 Form and Analysis	4
MSC 403 or 404 Counterpoint	4
MSC 405 Conducting	4
MSC 496 Projects and Problems	5
Electives	20
Total	51

Total minimum credits 198

3. **Curriculum in Theory and Composition.** Bachelor of Music Degree.

JUNIOR YEAR

Music Performance Area	*Credits*
Applied Principal, Including Recital	6
Ensemble	3
Courses	
MSC 317, 318, 319, History of Music	12
MSC 403, 404 Counterpoint	8
Electives in Music	6
Electives	7
Three courses from CPS; CBS; CMS; PS 485	9
Total	51

SENIOR YEAR

Music Performance Area	*Credits*
Ensemble	3
Courses	
MSC 307, 308 Composition	8
MSC 305, 306 Instrumentation and Arranging	8
MSC 303 Form and Analysis	4
MSC 496 Projects and Problems (Senior Project)	5
Electives in Music	12
Elective	11
Total	51

Total minimum credits 198

4. **Curriculum in History and Literature.** Bachelor of Music Degree.

JUNIOR YEAR

Music Performance Area	*Credits*
Applied Principal, Including Recital	6
Ensemble	4
Courses	
MSC 317, 318, 319 History of Music	12
Foreign Language	14
Three courses from CPS; CBS; CMS; PS 485	9
Electives in Music	6
Total	51

SENIOR YEAR

Music Performance Area	*Credits*
Ensemble	3
Courses	
Four courses from MSC 311, 312, 314, 411, 414, 415	16
Foreign Language	10
MSC 303 Form and Analysis	4
Electives	12
MSC 496 Project and Problems (Senior Project)	5
Electives in Music	7
Total	51

Total minimum credits 198

5. **Curriculum in Church Music.** Bachelor of Music Degree.

JUNIOR YEAR

Music Performance Area	*Credits*
Applied Principal	9
Applied minor	3
Ensemble	4
Courses	
MSC 317, 318, 319, History of Music	12
MSC 405 Conducting	4
Foreign Language	10
Three courses from CPS; CBS; CMS; PS 485	9
Total	51

SENIOR YEAR

Music Performance Area	*Credits*
Applied Principal	9
Senior Recital is required	
Applied minor	3
Ensemble	3
Courses	
MSC 316 Organ Design and Literature	4
MSC 416 Church Music and Hymnody	4
MSC 461 Vocal Music Materials	4
MSC 403 or 404 Counterpoint	4
Electives	20
Total	51

Total minimum credits 198

NOTE: Electives must include at least two courses in music literature chosen from MSC 311, 312, 314, 411, 414, and 415, and at least one course in religion, RN 361 or 362 or 363.

Ordinarily the church music major will earn 36 credits (four years of study) in organ or voice, with 6 credits in the other area of organ or voice as the applied minor.

6. **Curriculum in Music Education.** Bachelor of Music Education Degree.

The purpose of this curriculum is to prepare students to become musicians and music teachers both in private life and in the public schools. It is offered in cooperation with the College of Education and is based on a broad foundation in music. It includes work in theory of music, music literature, music education, applied music, and ensemble.

This is the program recommended for, and which best meets the needs of, the majority of music majors. It provides teaching certification, kindergarten through 12th grade, in Florida and in most other states through the National Council for the Accreditation of Teacher Education.

JUNIOR YEAR

Music Performance Area	*Credits*
Applied Principal, Incl. Recital	6
MSC 266 Piano Skills	1
MSC 277, 279, 281, Instrmental Skills	6
Ensemble	3
Courses	
MSC 317, 318, 319, History of Music	12
MSC 367, 369 Music Education	10
EDF 341, 342, or 345	5
Three courses from CPS; CBS; CMS; PS 485	9
Total	52

SENIOR YEAR

Music Performance Area	*Credits*
MSC 275 Percussion Skills	2
MSC 405 Conducting	4
Courses	
MSC 460 or 461 or 462 or 463 Materials and Administration	4
EDF 300 or 320 or 410 Foundations of Education	5
EDE 400 Elementary School Today	4
EDS 400 Secondary School Today	5

Approved Electives in Science and CMS..... 10
EDE 405, EDS 405, Student Teaching..... 16

Total 50

Total minimum credits 198

The degree Bachelor of Arts in music is offered through the College of Arts and Sciences with the cooperation of the Department of Music. See the College of Arts and Sciences section of the catalog for the degree.

III. CURRICULUM IN THEATRE

Leading to the Degree of Bachelor of Fine Arts in Theatre.
Hooks, E.J., *Chairman and Adviser.*

The B.F.A. program is designed to provide a general comprehension of the theatre as a composite art including studies in theory and dramatic literature plus introductory work in several craft areas essential to dramatic production. The latter are included to provide for comprehension of the complex nature of the art and to insure proper integration of its several craft specialties. Areas of concentration are (1) Performance and Stage Direction (2) Scene Design and Lighting, and (3) Costume, and (4) Dance.

In addition to the BFA degree, the Department of Theatre offers a major in Theatre in the College of Arts and Sciences leading to the degree of Bachelor of Arts: also in cooperation with the Colleges of Education and Arts and Sciences the Department of Theatre offers a program in Language Arts Specialty with theatre emphasis, leading to the degree Bachelor of Arts Education. For all programs in Theatre students should consult the Department of Theatre's academic adviser.

JUNIOR YEAR

Basic Studies	*Credits*
THE 324 Stagecraft 1	4
THE 328 Play Analysis	4
EH 431, 432 Shakespeare	8
THE 421, 422, 423 Costume History 1, 2	8
MSC 210	4

Specialization Sequence (Select one)

1. Performance

THE 226 Oral Performance	4
THE 321, 322 Acting 2, 3	8
THE 332, 333 Stage Movement 2, 3	8

2. Design-Tech:

THE 325 Stagecraft 2	4
THE 326 Technical Theatre Principles	4
THE 420 Stage Lighting	4
AE 112 Basic Drawing	4
AE 113 Architectural Drawing 1	4

3. Costume:

AE 112 or ART 103 Basic Drawing	4
ART 207, 208, 209 Art History, I, II, III	12
THE 423 Costume History 3	4

4. Dance:

THE 496 Readings Dance History	4
THE 332 Acting 2	4
PL 113 Begin Modern Dance (repeatable)	1
PL 129 Jazz (repeatable)	1
PL 213 Intermediate Modern Dance (repeatable)	1
PHR 232 Teaching Modern Dance	3
PHR 332 Composition	2
PL 213 Dance Company (repeatable)	1
PHR 333 Dance Production	3

Total 48

SENIOR YEAR

Basic Studies	*Credits*
THE 428, 429, 430 Theatre History 1, 2, 3	12
THE 329, 330 Directing 1, 2	8
THE 424 Repertory Theatre*	12
THE 323 Theatre Practice	3

Total 35

Specialization Sequences (Select one)

1. Performance:

THE 325 Stagecraft 2	4
Elective (Voice if possible)	8

2. Design-Tech:

THE 526 Scenic Design	4
THE 496 Individual Study (repeatable with change of content up to 8 hours)	8

3. Costume:

THE 527 Costume Design	4
THE 496 Individual Study (repeatable with change of content up to 8 hours)	8

4. Dance:

THE 496 Individual Study Readings	4
PL 113 (repeatable)	1
PL 129 (repeatable)	1
PL 213 (repeatable)	1
PHR 333 Dance Production	2
PL 213 Dance Company (repeatable)	1
PHR 333 Dance Production	2

Total 47

Total Minimum Credits 191

*THE 424 Repertory Theatre must be taken in the Summer quarter following the Junior or Senior year. No additional courses may be taken due to time requiements of SRT. (Summer Repertory Theatre).

School of Forest Resources and Conservation

FORESTRY
RANGE ECOSYSTEM MANAGEMENT
WILDLIFE ECOLOGY
RESOURCE CONSERVATION

School of Forest Resources and Conservation

College of Agriculture
Institute of Food and Agricultural Sciences

GENERAL STATEMENT

The primary objective of the School is to provide professional education in the many areas of forest, range, recreation and wildlife resources management and conservation and the allied fields. Special emphasis is given to instilling in students an aggressive attitude and a scientific approach to problems of the type they may encounter following graduation.

All work offered in the School meets the highest requirements of professional instruction. By selecting appropriate courses, graduates may qualify for membership in recognized professional organizations, such as: Society of American Foresters, Society for Range Management, and The Wildlife Society.

Programs of Study

All programs of the School are designed to provide students with an education of sufficient breadth to qualify them for advancement to positions of responsibility and leadership. In addition to the arts, humanities and social studies offered in the University College, students receive thorough training in the basic sciences and in essential phases of their chosen field.

Graduates of all programs will receive the degree Bachelor of Science in Forest Resources and Conservation (BSFRC). These programs are designed for students with interests in any of the many aspects of the management and conservation of forest, range, recreation and wildlife resources. All students must follow a core sequence designed to provide them with a thorough understanding of natural ecosystems and the impacts imposed upon such systems by the varied and multiple needs they serve. Also stressed are the interrelationships between the various professional disciplines needed for effective control, management and conservation of our various man-altered ecosystems.

In conjunction with the core, a student may follow a program of study designed to provide a beginning professional background in one of the following majors:

FORESTRY — Management and regulation of private, industrial and public forest land for the production of wood for the paper industry, the construction trade and a wide variety of industrial uses, and for the many services and activities accommodated by properly-managed forest resources, such as: wildlife habitat, watershed protection and grazing of livestock.

RANGE ECOSYSTEM MANAGEMENT — Management and utilization of range resources in forest and range lands, emphasizing the application of ecological principles, growth and utilization of the vegetation, and management for multiple benefits.

WILDLIFE ECOLOGY — Application of basic principles governing the abundance, distribution and ecology of all forms of wild animals, including those considered as game species. Insofar as wildlife is a product of the land, a broad ecological approach to ecosystem management is stressed.

RESOURCE CONSERVATION—Rather than pursuing one of the three majors listed above, the student may select courses in consultation with an assigned advisor to provide a broad or specific background in natural resources conservation.

The curriculum in Forest Products has been suspended until further notice.

Satisfactory completion of the prescribed courses in one of the majors, as certified by the assigned faculty advisor, will be noted on the student's transcript.

FACILITIES FOR INSTRUCTION AND RESEARCH

The School of Forest Resources and Conservation is headquartered in Newins-Ziegler Hall, which was completed in 1976. This modern and attractive structure has 31,000 square feet of net usable space. It contains two general classrooms, four teaching laboratories, two conference rooms, a self-learning facility, carrels for 22 graduate assistants, 22 specialized and 14 common use research laboratories. It also provides office space for all immediate School faculty.

The School has two other facilities on campus for research and graduate student instruction. One of these is a small office building, headhouse-shadehouse-greenhouse complex for research in forest genetics, forest nutrition, forest pathology, forest tree physiology, silviculture and forest products. The second is the Resource Management Systems Laboratory which is used for certain studies in freshwater and marine fisheries biology, and aspects of terrestrial ecology relating to wildlife, range and forest land use.

Varied facilities for carrying out its instructional and research objectives are available to the School. Several University-owned forests and range lands are available for field laboratories, demonstration and research work. The Welaka Research and Education Center, consisting of 2,500 acres of diversified forest lands, is located in Putnam County, Florida. The Austin Cary Memorial Demonstration Forest, consisting of 2,083 acres of flatwoods forest land located 8 miles northeast of Gainesville, is used as a field laboratory and demonstration and experimental forest where the student receives practical field experience. The School has a nursery, a small sawmill with planer and other necessary equipment, and a bolter saw located on the Austin Cary Forest. Other resource facilities located at this site include a fisheries laboratory and 10 experimental fish ponds. The 420-acre Chinsegut Hill Forest in Hernando County provides a setting for research in the conservation and perpetuation of scenic stands of old-growth pine timber. Diversified land-management operations are studied on the Beef Research Unit and the adjacent Mize Tract, which is being managed primarily for woodland grazing of livestock. Range operations research and instruction are also conducted at the 1,800 acre Agricultural Research Center at Ona, Florida. The Anhinga Roost Property, consisting of some 500 acres of shoreline and lake bottom of nearby Newnan's Lake, is available for research and instruction in freshwater fisheries and wildlife ecology.

Woodlands holdings, in excess of 250,000 acres, of five large pulp and paper companies and several smaller private forestry operations located within a radius of 20 miles of the campus are available for laboratory use. Two of the three National Forests of the state are less than fifty miles from the campus, and Paynes Prairie State Park, a unique 8,000-acre diversified marsh, prairie and hammock area, is within ten minutes travel time of the campus. Several other city, county and state parks and recreational areas, including unique natural areas such as the Devil's Millhopper and the San Felasco Hammock, are nearby and available for research and study by students interested in forest recreation, wildlife ecology and natural resources conservation.

Computer terminals connected to the University Computing Center and other modern computational equipment are available in the School to students enrolled in its programs. Also, mapping, aerial photo interpretation, drafting and analytical equipment are available.

There are several forest products industries located in the vicinity of Gainesville, namely: a wood-preservation plant, pole and cross-tie yard, pallet mill, charcoal briquetting plant, box and crate factory, and several sawmills. Wildlife management areas, numerous lakes and streams

with varied management problems, ranches, and private and commercial forest holdings are located in the vicinity. Visits to these supplement the student's training in resource management conservation.

Resource publications are housed primarily in Hume Library, a unit of the University Library System. This is a comprehensive collection which is kept current by frequent additions. It includes all important serials as well as the publications of all major forest, fisheries, wildlife, and range research organizations.

REQUIREMENTS FOR ADMISSION

The University of Florida and the School of Forest Resources and Conservation encourage applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this school. It should be understood, however, that minimum requirements are given and that admission is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objective, pattern of courses previously completed, quality of previous academic record, and test data will all be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested. The following conditions will serve as a guide in expediting transfer to the School in compliance with the above requirements.

For admission to upper division status in the School of Forest Resources and Conservation, applicants must complete those general educational and preprofessional courses, or their equivalent, indicated in the University College section of this catalog. To assist the community college student in planning a program, the preprofessional requirements (in quarter-hour credits) may be satisfied by the following courses: calculus including analytic geometry (10 cr.); botany and zoology, or biology with laboratory (14 cr.); principles of economics (9 cr.); general and qualitative chemistry (12 cr.); general physics with laboratory (10 cr.); and statistics (4 cr.).

Direct admission will be granted to all applicants whose grade point average (GPA) is 2.3 or above and who have completed at least 96 quarter hours, including the above courses. Admission of students whose GPA is between 2.0 and 2.3 or who have not completed the preprofessional courses indicated above will be determined by the Admissions Committee.

Entry Time For Students: Students who have completed all of their preprofessional coursework should plan their initial enrollment into the School preferably during either the fall or spring quarter. Students who have not completed all of the preprofessional courses in time to enter the School during a fall or spring quarter are advised to contact the School of Forest Resources and Conservation for guidance as to the best time when they should enroll. Students entering the School during winter or summer quarters may enroll in prerequisite courses, nonprofessional electives or professional courses for which they have satisfied listed prerequisites.

REQUIREMENTS FOR GRADUATION

The Degree of Bachelor of Science in Forest Resources and Conservation is awarded to students who have completed 200 acceptable credits and have met the requirements of the curriculum. These requirements are specified in the University College section of this catalog and in the curricula listed below.

GRADUATION WITH HONORS

For requirements see the general statement for graduation with honors, College of Agriculture.

CURRICULUM

FOREST RESOURCES MANAGEMENT AND CONSERVATION

JUNIOR AND SENIOR YEARS

Required of all Students:

	Credits
FRC 302 Introduction to Natural Ecosystems	6
FRC 381 Biological Principles of Natural Resources Management	3
FRC 382 Quantification in Natural Resources Management	5
FRC 383 Decision Making in Natural Resources Management	3
FRC 412 Seminar	1
FRC 481 Natural Resources Management Policy	3
FRC 482 Integrated Natural Resources Management	3
	24*

*In addition to the 24 hours listed here, all students in the School of Forest Resources and Conservation are required to complete the following: a minimum of 5 FRC courses; 4 credits of advanced communications, for example, technical writing, composition, journalism, public speaking.

Required of Forestry Majors:

	Credits
FRC 301 Lectures in Basic Plant Pathology and	2
FRC 313 Lab in Forest Pathology or	3
EY 301 Entomology	3
EY 351 Forest Entomology Laboratory	2
FRC 321 Introduction to Forest Surveying	5
FRC 322 Forest Drawing	1
FRC 326 Dendrology	4
FRC 328 Forest Resources Measurement Laboratory	3
FRC 346 Forest Photogrammetry	4
SLS 330 General Soils	5
FRC 403 Forest Ecology — Silviculture	5
FRC 406 Forest Fire Control and Use	3
FRC 416 Principles of Forest Management	4
FRC 420 Forest Economics	4
Electives	37
	80

Required of Wildlife Ecology Majors

	Credits
FRC 326 Dendrology	4
FRC 353 Principles of Wildlife Ecology	4
FRC 354 Techniques of Wildlife Ecology	4
FRC 360 Range Plants	4
FRC 434 Wildlife Res. of Upland Environments (4) or FRC 437 Waterfowl Ecology (5)	4-5
ZY 306 Vertebrate Zoology	5
ZY 307 Field Problems in Vertebrate Zoology	4
ZY 309 Functional Vertebrate Anatomy	5
ZY 405 General Ecology	5
AY 362 Genetics	4
Electives	36-37
	80

Required of Range Ecosystem Management Majors:

	Credits
FRC 360 Range Plants	4
FRC 460 Range Ecology	5
FRC 461 Range Ecosystem Management	5
FRC 462 Range Ecosystem Planning	4
BTY 310 Elementary Plant Physiology	4
BTY 311 Elementary Plant Physiology Laboratory	2
SLS 330 General Soils	5
Electives	51
	80

Required of Resource Conservation Majors:

Rather than one of the majors described above, the student may develop, with the advisor's and School Director's approval, an individualized program in Resource Conservation.

Total Junior-Senior Credits..... 104

All programs must have the approval of the assigned academic advisor and must be certified by the advisor prior to graduation.

TRANSFER OF CREDIT FROM A RECOGNIZED RANGER SCHOOL

Graduates of a recognized Forest Ranger School, upon admission to the University of Florida, may apply for and receive credit for the following required courses, provided they make a satisfactory score in each subject on oral and/or written examinations administered by the School of Forest Resources and Conservation during their first quarter in residence.

	Credits
FRC 220 Introduction to Forestry	3
FRC 322 Forest Drawing	1
FRC 326 Dendrology	4
FRC 406 Forest Fire Control and Use	3
FRC 321 Introduction to Forest Surveying	5
FRC 328 For. Resources Meas. Lab	3
Total	19

MASTERS DEGREE

Courses are offered in the Graduate School leading either to the Master of Science degree or the Master of Forest Resources and Conservation. The former degree requires a thesis; the latter does not.

For the requirements for these degrees, see the catalog of the Graduate School.

College of Health Related Professions

ALLIED HEALTH
CLINICAL AND COMMUNITY DIETETICS
CLINICAL PSYCHOLOGY
HEALTH AND HOSPITAL ADMINISTRATION
HEALTH RELATED PROFESSIONS
MEDICAL TECHNOLOGY
OCCUPATIONAL THERAPY
PHYSICAL THERAPY
REHABILITATION COUNSELING

College of Health Related Professions

GENERAL STATEMENT

The College of Health Related Professions, an academic unit of the J. Hillis Miller Health Center, provides an opportunity to train needed personnel representing various health careers. This College offers professional curricula leading to undergraduate degrees in allied health, clinical and community dietetics, medical technology, occupational therapy, and physical therapy; master's of health science degrees in occupational therapy and rehabilitation counseling; and a graduate program in health and hospital administration in cooperation with the College of Business Administration. (The Department of Clinical Psychology's academic program leads to the Ph.D. in Psychology and the department also offers a nationally accredited predoctoral internship in Clinical Psychology.) The Department of Communicative Disorders provides clinical and research opportunities for advanced students in speech pathology and audiology in the College of Arts and Sciences. A Rehabilitation Research Institute relates to ongoing research and assists members of the staff and students with research proposals and projects.

Three resources common to all these academic programs are accessibility of patients in the Teaching Hospital and Clinics, availability of staff and facilities of the College of Medicine, and the presence of a wide range of established course offerings to be found in a large university. The effective operation of various medical, hospital and rehabilitation programs depends upon well trained and properly oriented personnel. The geographic location with the College of Medicine and the College of Nursing strengthens the respective programs of this College by making it possible for those who are to work together to be trained together.

REQUIREMENTS FOR ADMISSION

Listed below are the specific requirements for admission to the undergraduate programs offered in this College. Because these are undergraduate programs, selections are made from among those applicants who have not previously completed requirements for a baccalaureate degree. It should be understood that minimum requirements are listed. Admission to this college is a selective process, and satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objective, courses completed, quality of academic record, completion of SCAT test, and knowledge of that field will all be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the professional field selected.

The Dean and faculty of the College of Health Related Professions are aware of the need to prepare well qualified graduates in the various baccalaureate degree programs. Limitations in available staff, faculty and facilities make it necessary that the college establish quotas for the admission of students.

The student should consult the appropriate department chairman at the University as early as possible regarding his program. The sequence of professional courses in all programs begins only in the Fall quarter of the Junior year. The deadline for receipt of applications and credentials for admission in the Admissions Office for September enrollment is the preceding March 15.*

University College Students: The only non-residents who will be considered are those who have completed all general education and preprofessional course requirements at the University of Florida. To be eligible for admission to the College of Health Related Professions, a University College student must have: (1) earned at least 96 quarter hours of acceptable college credit with an overall average of 2.6 or higher on all college level work attempted; (2) completed all lower division courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years outlined in the University College section of this catalog; and (3) passed all required preprofessional courses within the lower division curriculum with an overall average of 2.6 or higher (with the exception of medical technology).

Transfer Students: To be eligible for admission to the College of Health Related Professions a transfer student must be a Florida Resident and must satisfy the minimum requirements for admission to an Upper Division College set forth in the admissions section of this catalog. Each student should contact directly the specific department to which he wishes to gain admission. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Health Related Professions: (1) Must have completed the courses required for the desired curriculum (or their equivalent with a 2.6 average or higher, with the exception of Medical Technology) as indicated in the program for the Freshman and Sophomore Years outlined in the University College section of this catalog, and (2) passed all required preprofessional courses with an overall average of 2.6 or higher (with the exception of Medical Technology).

*Allied Health Program admits each quarter.

A. Students attending four year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore Years for students planning to enter the College of Health Related Professions.

B. Junior College students should:

1. Complete the two-year college parallel program at the junior college.

2. Satisfy the general education requirements established for the junior college.

3. Complete the following courses which are prerequisite for admission to the undergraduate program as designated:

a. *Clinical and Community Dietetics*
General Chemistry and qualitative analysis
Organic chemistry, if available
Zoology or biology with laboratory (1 year course, i.e. three quarters or two semesters)
Botany (one quarter or one semester)
General psychology
Introduction to health related professions, if available
Basic nutrition course, if available

b. *Medical Technology*
General chemistry and qualitative analysis
Zoology or biology with laboratory (1 year course, i.e. 2 semesters or 3 quarters)
Organic chemistry
Quantitative analysis
Physics, if available
Introduction to health related professions, if available

c. *Occupational Therapy*
Zoology or biology with laboratory (1 year course, i.e. 2 semesters or 3 quarters)
General psychology
Psychology of personality
Studio arts and crafts, if available
Introduction to health related professions, if available

d. *Physical Therapy*
General chemistry and qualitative analysis
Physics
Zoology or biology with laboratory (1 year course, i.e. 2 semesters or 3 quarters)
General psychology

Personality development
Mathematics
Introduction to health related professions, if available

C. Health technician students should:

1. Have completed a two year associate degree in an approved health technician curriculum.
2. Be registered or licensed in his specialty area.
3. Have work experience in his health related specialty.

If the junior college does not offer courses that are required for admission to the student's selected curriculum in the College of Health Related Professions, the student should consider transfer to the University prior to graduation from the junior college provided he is eligible for admission to the University College. The student is encouraged to consult the appropriate Department Chairman at the University as early as possible regarding his program.

PROBATION, SUSPENSION, AND EXCLUSION FOR ACADEMIC REASONS

(1) If a student receives a "D" in a required course, the faculty may provide opportunity for the student to make up material through independent study.

(2) If a student receives two "D's" in required courses while in the program, the student will be required to withdraw and if space is available, repeat the course in which the second "D" was received the next time it is offered, and then may continue in the program.

(3) If a student receives an "E" in a required course, the student must withdraw from the program. If space is available, upon petition to the Department Faculty Committee, the student may be permitted to repeat the course the next time it is offered.

(4) If the student receives an "Unsatisfactory" grade in a required course graded on a "S-U" basis, the student will be required to withdraw from the program.

In addition to University probation, students may be placed on probation by the College of Health Related Professions if they do not maintain normal academic progress in the program of study in which they are engaged.

A student with less than a 2.0 grade point average overall for work completed after acceptance into the College of Health Related Professions shall be placed on scholarship warning if he or she has a grade point deficit which is less than 10.

A student with less than a 2.0 grade point average overall for work completed after acceptance into the College of Health Related Professions shall be placed on scholarship probation if he or she has a grade point deficit of 10 or more, but less than 20.

GRADUATE PROGRAMS

Graduate work in health and hospital administration leads to the degree, Master of Business Administration. Major responsibility for the program rests with the College of Business Administration and the College of Health Related Professions. For requirements for this degree, consult the *Graduate School catalog.*

Graduate work in occupational therapy leads to the degree of Master of Health Science. For requirements for this degree, consult the *Graduate School catalog.*

Graduate work in rehabilitation counseling leads to the degree of Master of Health Science in Rehabilitation Counseling. For requirements for this degree, consult the *Graduate School catalog.*

Graduate work in clinical psychology leads to the degree of Doctor of Philosophy in psychology. For requirements for this degree, consult the *Graduate School catalog.*

HEALTH POLICIES

The College of Health Related Professions requires evidence of sound physical and mental health for admission.

At the beginning of the Junior and Senior years, personnel of the Department of Student Health will test each health related professions student for sensitivity to tuberculosis. Students who are not tested on the specified dates will be notified to report to the Infirmary and will be charged for the sensitivity test. The Department of Student Health will verify immunization against diphtheria and tetanus.

Each student registered in clinical courses is required to have some form of hospitalization insurance. Fulltime students are eligibl for the health insurance plans sponsored by the Student Government which may be purchased at the time of registration. This provides twelve month coverage.

GRADUATION WITH HONORS

To graduate with honors, each program will identify only the top 20% of the students in its graduating class by Upper Division grade point average, which will be computed after acceptance into the College of Health Related Professions as an Upper Division student. A student must have earned a 3.7 grade point average to graduate with high honors or a 3.4 grade point average to graduate with honors, with a minimum of 60 quarter credits while enrolled in the College of Health Related Professions program. In addition, the individual program will establish additional criteria which must be met by this 20% to graduate with honors or high honors and if the students identified in the top academic 20% of the class do not qualify for departmental outstanding category, they will not be recommended for graduation with honors or high honors by the faculty. Thus, less than 20% would graduate with honors or high honors.

PROFESSIONAL ORGANIZATIONS AND CLUBS

Alpha Eta Society is a national honor society for students in the health related professions. The University of Florida's chapter is the first and charter member of the Society. Alpha Eta is an officially recognized campus organization and the first of its kind in the country. Members are chosen from any degree offering division of the College. The purpose of this society is to encourage and recognize scholarly and professional attainments and to promote the advancement of professional standards in the health related professions.

Students are also eligible for other university honorary fraternities. In addition, each curriculum has professional clubs associated with it which all interested students are eligible to join.

EXPENSES

In addition to the usual University tuition and fees, students will be expected to furnish designated uniforms and shoes for clinical work. This will be necessary for students in occupational therapy and physical therapy in the Junior and Senior year and for students in clinical and community dietetics and medical technology in the Senior year.

Field experience is required of students in occupational therapy and physical therapy. The student shall be responsible for financing this portion of his preparation. Costs vary depending upon location of the field assignment.

STUDENT AID

Students interested in part-time employment, assistantships, loans, prizes, and awards should apply to the

office of Student Financial Aid, University of Florida, Gainesville, Florida. A limited amount of scholarship, traineeship, and loan assistance reserved exclusively for students in the College of Health Related Professions, is administered by the College. Application for such assistance is made to the Chairman of the department in which the student plans to major.

ALLIED HEALTH PROGRAM FOR HEALTH TECHNICIANS WITH ASSOCIATE DEGREES

GENERAL STATEMENT

This program is designed for allied health personnel who have an associate of art, science, or applied science degree in specific health related programs such as respiratory therapy, dental hygiene, nursing, and radiologic technology, etc. At least two (2) years' work experience is required.

The objective of this program is to expand the capabilities of associate degree health related personnel so that they may be able to assume greater responsibilities in the health care system by (1) developing capabilities in middle management supervisory skills in various health care facilities such as hospitals, nursing homes, health maintenance organizations, etc., and (2) helping develop competencies in individuals who wish to teach their technical specialties in the community colleges and/or other appropriate institutions.

CURRICULUM

The Bachelor of Health Science in Allied Health is awarded upon the satisfactory completion of the course requirements for this program.

A selections committee determines the students who are to be accepted. Enrollment is based upon the limitations imposed by laboratory and clinical facilities. Admission to the University does not guarantee admission to this program.

Since students admitted in this program have varied backgrounds, each student's transcript will be evaluated and an individualized curiculum will be developed to maximize the student's previous academic background and vocational goals. College credits of students accepted with an associate of science or applied science degree will be credited only to this program. Students who wish to transfer to other University degree programs before completion of this program will have their credentials re-evaluated by the college offering the degree. No more than 64 semester (96 quarter) hours of credit transferred from or through a junior college may be applied toward the quantitative requirements for a University of Florida degree.

UPPER DIVISION REQUIREMENTS FOR BACHELOR OF HEALTH SCIENCE IN ALLIED HEALTH FOR THE HEALTH TECHNICIAN WITH AN ASSOCIATE DEGREE:

The student admitted into the program must complete courses in each of the first three sections.

I. The Core

	Credits
HRP 405 The American Health Care System	3
HRP 406 Supervisory Skills in Health Care Administration	3
HRP 407 The Hospital and Related Organizations	4
HRP 408 Legal and Ethical Aspects of Health Care Delivery	4
HRP 460 Practicum	6
HRP 490 Special Topics: Issues in Health Care Delivery	4
SY 414 Social Factors in Health and Illness	4
STA 310 Statistics for the Social Sciences	4
Total	32

II. Cognate Electives

The student must complete a minimum of 15 hours of cognate electives. The following are examples of cognate courses. Additional cognates will be developed in consultation with appropriate colleges.

	Credits
HRP 331 Basic Human Anatomy and Physiology	3-5
HRP 490 Special Topics: Death and Dying	4
HRP 496 Individual Study	4-8
APY 490 Special Topics: Rural Health Systems	3-5
EDV 480 Special Methods and Materials for Teaching Vocational-Technical Health Occupations	4
ED 641 Practicum in College Teaching	8
EDF 345 Human Growth and Development	5
FI 464 Health Insurance	4
MGT 310 Principles of Management	4
MGT 350 Personnel Management	4

III. General Education

The curriculum and courses taken by the individuals with an associate degree in a health technology varies greatly in the number of hours and types of general education courses. The number of courses and credits transferable to meet the University's general education requirements will be determined by the College of Health Related Professions Dean's Office. The University requires no less than 54 quarter credit hours of general education be completed in order to graduate with the degree Bachelor of Health Science in Allied Health. The general education courses should be balanced to include work in five of the following areas: Mathematics, English, Social Sciences, Behavioral Studies, Humanities, Physical Sciences, and Biological Sciences, with a minimum of 9 credits in three areas.

IV. Other Electives

Additional courses may be taken to make up the total number of credits required to graduate. These courses may be those which would serve to strengthen the background knowledge of the student's technical health related competencies.

Maximum quarter credits accepted for transfer	96
Upper Division	94-104
Total	190-200

CLINICAL AND COMMUNITY DIETETICS GENERAL STATEMENT

Clinical and Community Dietetics offers a challenging career for young men and women who are interested in science, health care and food, and who like to work with people as individuals and groups. The selection of food to supply required nutrients for optimal health is an integral part of comprehensive health care. The dietitian brings to the health care team knowledge of the composition of food, knowledge of individual nutrient requirements throughout the life span and the ability to modify texture and nutrients in the diet as necessitated by disease.

The clinical dietitian is a specialist who works with the medical team and assumes responsibility for the nutritional component of comprehensive health care. The specialist estimates nutrient intakes and requirements in a variety of situations, determines how individual dietetic needs can be met, and instructs and counsels the individual patient. The clinical dietitian diagnoses nutritional problems and designs new dietetic approaches to the management of specific diseases. The individual may design the nutrition component of research protocols and implement the controlled diets necessary for medical research.

The community dietitian knows the community resources available for comprehensive health care, works with nutritionally vulnerable individuals and groups in the community, and functions as a member of the community health team. Clinical and community dietitians may serve as consultants, advisers, supervise supportive personnel and participate in educational activities in a variety of settings.

REGISTRATION

Satisfactory completion of the academic and clinical requirements is the basis for professional membership in the American Dietetic Association and eligibility to take the registration examination. Successful passing of this examination qualifies the candidate as a Registered Dietitian (R.D.). National registration is the basis for employment in civilian, military, state and federal hospitals throughout the United States.

CURRICULUM

The Bachelor of Health Science with a major in clinical and community dietetics is awarded upon completion of the course requirements in the curriculum. The program is designed to meet the requirements of the American Dietetic Association.

The sequence of professional courses in clinical and community dietetics begins in the Fall quarter of the academic year and requires seven quarters to complete.

A selections committee determines the students who are to be accepted. Enrollment is based upon the limitations imposed by laboratory and clinical facilities. Admission to the University does not guarantee admission to this curriculum. For specific requirements for undergraduate admission, refer to the section on "Requirements for Admission" to the College.

Students planning to major in Clinical and Community Dietetics should contact the Program Director at the earliest possible date by letter and/or personal interview. A personal interview is required of all applicants.

Selection of students to enter the program in the Fall will be accomplished during the Spring quarter. Application materials should be submitted by March 15.

REQUIREMENTS FOR BACHELOR OF HEALTH SCIENCE IN CLINICAL OR COMMUNITY DIETETICS

Freshman Year	*Credits*
SCC American Institutions	9
EH English	9
ZY 201-202 Principles of Animal Biology	9
CY 201-202-203 General Chemistry	12
Physical Education	3
Electives	6
Total	48

Sophomore Year	*Credits*
HUM Humanities	12
CY 204 General Chemistry	4
CMS 111 Fundamental Mathematics	4
BTY 203 General Botany	5
HRP 101 Introduction to Health Related Professions	3
FS 250 Fundamentals of Nutrition	4
PSY 201 General Psychology	4
BES Behavioral Studies	6
Electives	6
Total	48

Junior Year	*Credits*
CY 362 Organic Chemistry	4
CY 363 Organic Chemistry Laboratory	2
HRP 331 Anatomy and Physiology	3
CCD 311 Nutrition and Environmental Factors	4
MCY 302 Microbiology	5
FS 403 Food Microbiology	5
CCD 312 Principles of Dietetic Management	4
BCH 351 Introduction to Human Biochemistry	3
FS 301 Introduction to Food Science	4
FS 350 Introduction to Human Nutrition	4
Electives	10
Total	48

Senior Year	*Credits*
CCD 407 Food Systems Management	4
CCD 412 Practicum in Food Systems Management	5
FS 405 Advanced Human Nutrition	4
CCD 414 Practicum in Nutrition Throughout the Life Span	5
FS 402 Food Chemistry and Analysis	5
CCD 406 Nutrition and Disease	5
CCD 411 Practicum in Nutrition and Disease	5
CCD 480 Clinical and Community Dietetics Seminar	4
Total	37

4th Quarter (spring)

Community Dietetics Option	*Credits*
CCD 420 Community Dietetics	5
CCD 421 Practicum in Community Dietetics	5
HRP 496 Individual Work in Clinical and Community Dietetics	4
	14

Clinical Dietetics Option	*Credits*
CCD 422 Clinical Dietetics	5
CCD 423 Practicum in Clinical Dietetics	5
HRP 496 Individual Work in Clinical and Community Dietetics	4
	14
Total	195

MEDICAL TECHNOLOGY GENERAL STATEMENT

Medical technology encompasses the largest single group of clinical laboratory workers. As the number and complexity of clinical laboratory examinations and procedures continue to increase, the need for well-trained medical technologists for service, teaching, research, and administrative positions increases. Many excellent employment opportunities are available for men and women with degrees in medical technology.

Medical technologists furnish physicians with laboratory data relative to the diagnosis and treatment of patients as well as in connection with medical education and research. They carry out the great majority of examinations of blood and other body fluids, isolation and identification of disease producing organisms, blood banking procedures, serological tests, and related laboratory studies. They prepare body tissues and other materials for further specialized examinations by pathologists and other clinical laboratory specialists. Most medical technologists work in hospitals and other clinical and public health laboratories and, in physicians' offices. They also have excellent employment opportunities in the biological and pharmaceutical firms, in veterinary medicine, and in many related areas.

LICENSURE:

All laboratory personnel in Florida must be licensed except those employed in federal government institutions and in laboratories operated by not more than 5 physicians for performance of procedures on their patients only. Requirements for licensure under Florida Clinical Laboratory Law, Chapter 483, Florida Statutes, 1967, can be found in Rules Chap. 10D-41, State of Florida. Division of Health. Examinations for licensure are given semi-annually.

PROFESSIONAL ORGANIZATIONS

Lambda Tau is a national medical technology honor society with established chapters in undergraduate colleges and universities. Its purposes are: to develop a spirit of cooperation and unity among students entering any of the fields of medical laboratory technology; to stimulate a higher type of ideal for scholastic effort, to encourage re-

search, and to help develop the professional character of the work itself; and to interest other students in these fields. Students maintaining a required scholastic average are eligible for membership.

Students enrolled in the professional curriculum may become student members of the American Society for Medical Technology.

CURRICULUM

The Bachelor of Health Science in Medical Technology is awarded upon the satisfactory completion of the course requirements in the medical technology curriculum. The curriculum has been approved by the Council of Medical Education of the American Medical Association. Satisfactory completion of these requirements is the basis for eligibility for the examination by the Registry of Medical Technologists of the American Society of Clinical Pathologists. Successful passing of this examination qualifies the candidate for certification as a Registered Medical Technologist, M.T. (A.S.C.P.), and for membership in the American Society for Medical Technology. This program also meets requirements for admission to licensure examinations in those states which regulate the practice of medical technology.

A Selections Committee determines the students who are to be accepted. Enrollment is based upon the limitations imposed by available laboratory and clincial facilities and materials. Admission to the University does not guarantee admission to this curriculum.

(Consult section of catalog entitled The Lower Division, Health Related Professions for listing of preprofessional course requirements).

REQUIREMENTS FOR BACHELOR OF HEALTH SCIENCE IN MEDICAL TECHNOLOGY:

Freshman Year	*Credits*
SSC American Institution	9
EH English	9
BES Behavioral Studies	3
*CY 211-212-213 General Chemistry and Qualitative Analysis	12
HRP 101 Introduction to Health Related Professions	3
MET 201 Introduction to Medical Technology	2
Electives	7
Physical Education	3
Total	48

Sophomore Year	*Credits*
HUM The Humanities	12
**MS 102 Algebra and Trigonometry	5
***ZY 201-202 General Zoology	9
CY 362-363 Organic Chemistry	6
CY 331 Quantitative Analysis	5
STA 320 Introduction to Statistics	4
Electives	7
Total	48

Junior Year	*Credits*
MET 301 Fundamentals of Medical Technology-Hematology	3
MET 302-304-306 Introduction to Laboratory Procedures I, II, III	4
MET 303 Fundamentals of Medical Technology-Clinical Chemistry	3
MET 305 Fundamentals of Medical Technology-Blood Banking	3
MCS 302-303 Introductory Bacteriology & Laboratory	5
MCS 405-455 Basic Immunology & Laboratory	5
MCS 406-456 Bacterial Patholgens & Laboratory	5
HRP 331 Basic Anatomy and Physiology	4
MCS 320 Human Parasitology	4
Electives	12
Total	48

Senior Year —(4 Quarters)	*Credits*
MET 401-402-403-404-405-406-407 & 408 Clinical Laboratory Practicum I, II, III, IV, V, VI, VII, VIII	40
MET 409-410-411-412 Principles of Clinical Laboratory Methodology I, II, III, IV	8
MET 413-414-415 Seminar in Medical Technology I, II, III	3
Total	51

*CY 201-202-203-204 may be substituted.

**Students who qualify should take an advanced mathematics course instead of MS 102. Consult University College counselor.

***BIO 201, 202, 203 may be substituted.

OCCUPATONAL THERAPY GENERAL STATEMENT

Occupational therapy is an integral part of the comprehensive medical care and rehabilitation of patients with physical and mental illnesses. The occupational therapist uses creative arts, manual skills; recreational, educational and prevocational activities to assist in restoring ill and disabled persons to health. The activities for each patient are selected to meet his specific problems and needs.

A variety of activities are utilized in evaluation and treatment of patients with psychiatric disorders. For example, creative activities may be utilized in the treatment of a mentally ill person in order to stimulate emotional growth and to develop healthy, interpersonal relationships. Since the majority of the activities are manual in nature, occupational therapy for the physically handicapped patients is used mainly to improve functional hand and arm use. The activities selected may improve physical performance by providing specific exercise to improve coordination, to build endurance, or to restore motion and strength. Occupational therapy for children assists in the development of basic motor skills and in the acquisition of the manual and social skills required for school and play.

The occupational therapist also helps the severely disabled person to become independent in activities of daily living by adapting equipment and modifying tasks to meet the needs of the patient. Information related to a patient's potential for employment is obtained through the evaluation of the factors required for successful performance of various tasks relating to work skills and work habits.

The occupational therapist works closely with physicians and other members of the health team as he plays an important role in helping those with disabilities and illnesses to function at their greatest potential. There are many interesing and challenging opportunities for placement and for advancement in the profession.

REGISTRATION

To be eligible to work in occupational therapy in Florida a person must be registered under the provision of the Occupational Therapy Practice Act, Florida Statutes 468. State registration for occupational therapists is administered under the auspices of the Florida State Board of Medical Examiners. Examinations for registration under this Act are given semi-annually.

Satisfactory completion of the academic and clinical internship requirements is the basis for professional membership in the American Occupational Therapy Association and for eligibility to take the examination which qualifies the candidate as a registered occupational therapist (OTR). National registration is the basis for employment in civilian, military, state, and federal hospitals, rehabilitation centers, community clinics and schools for handicapped children throughout the United States and in most foreign countries.

PROFESSIONAL CLUBS AND ORGANIZATIONS

The Student Occupational Therapy Association of the University of Florida is officially recognized as a campus organization. Membership is open to all university students who are interested in occupational therapy. The purpose of SOTA is to stimulate interest in occupational therapy among prospective and currently enrolled students and among related professional community groups.

Students formally enrolled in the professional curriculum are eligible to become student members of the American Occupational Therapy Association and of the Florida Occupational Therapy Association.

CURRICULUM

The Bachelor of Health Science in Occupational Therapy is awarded upon completion of the course requirements in the occupational therapy curriculum. One of the curriculum requirements is the completion of a minimum of six months of clinical internship. Internship includes experience in psychiatric hospitals and approved centers offering experience with various types of physical disabilities and with all age groups.

The curriculum in occupational therapy is approved by the Council on Medical Education of the American Medical Association and by the American Occupational Therapy Association. The sequence of professional courses in occupational therapy begins only in the Fall quarter of each academic year. The Senior year sequence requires enrollment for all four academic quarters.

A Selections Committee determines the students who are to be accepted. Enrollment is based upon the limitations imposed by laboratory and clinical facilities and materials. Admission to the University does not guarantee admission to this curriculum. For specific requirements for undergraduate admission, refer to the section on "Requirements for Admission" to the College.

REQUIREMENTS FOR BACHELOR OF HEALTH SCIENCE IN OCCUPATIONAL THERAPY:

Freshman Year	*Credits*
SSC American Institutions	9
CPS The Physical Sciences	7
EH English	9
BES Behavioral Studies	6
CMS 111 Fundamental Mathematics	4
HRP 101 Introduction to Health Related Professions	3
Physical Education	3
Electives	7
Total	48

Sophomore Year	*Credits*
HUM The Humanities	12
CBS 211-221-231-264 The Biological Sciences	10
OCT 201 Introduction to Occupational Therapy	2
PSY 201 General Psychology	4
PSY 345 Psychology of Personality	4
Electives	16
Total	48

Junior Year	
Three Quarters Enrollment Required	*Credits*
OCT 300 Introduction to Clinical Procedures	2
OCT 302 Applied Human Development	4
OCT 361 Therapeutic Skills	9
OCT 421 Problems of Psychosocial Dysfunction	4
OCT 431 Musculoskeletal Anatomy	5
OCT 441 Problems of Physical Dysfunction	4
OCT 461-462 Practicum	4
HRP 401 Psychiatric Disorders	4
HRP 417 Kinesiology	3
HRP 431 The Nervous System	4
HRP 432 General Pathology	4
Total	47

Senior Year	
Four Quarters Enrollment Required	*Credits*
OCT 422 Problems of Pschosocial Dysfunction	4
OCT 442 Problems of Physical Dysfunction	4
OCT 463 Practicum	2
OCT 465 Internship (Spring quarter)	12
OCT 466 Internship (Summer Quarter)	12
OCT 480 Occupational Therapy Seminar	4
HRP 490 Special Topics or HRP 496 Individual Work	4
HRP 433 Medical and Surgical Disorders	3
Electives	9
Total	54

Total 197

PHYSICAL THERAPY GENERAL STATEMENT

Physical therapy offers a challenging career for young men and women who are interested in scientific and medical fields and who like to work with people. Graduates have a wide choice of employment opportunities. It is one of a number of services closely allied with comprehensive health care and is an integral part of rehabilitation. It has, as its objective, optimum functional restoration of patients disabled by illness or injury.

Patients are referred for physical therapy by licensed physicians with whom the physical therapist works closely in carrying out evaluative procedures to determine the degree and extent of disability and in planning and administering the therapeutic program. Objectives of physical therapy are to assist in the alleviation of pain and restoration of function in order that the patients may be able to return to work, to school, and to their homes and to again become contributing members of their communities. Illustrative of patients — from new born to aged — referred for physical therapy are those whose disabilities result from fractures, nerve injuries, birth defects, brain damage, cardiac problems, "stroke," and other diseases of bone, joint, circulatory, respiratory and neuromuscular systems.

Physical therapy requires knowledge and background in biological, physical and behavioral sciences such as psychology, gross and applied anatomy, physiology and pathology. It utilizes this knowledge in the application of therapeutic properties of exercise, heat, cold, electricity, ultra sound and massage. The physical therapist works closely with the physician, occupational therapist, nurse, speech and hearing therapist, psychologist, and other members of the health team as they combine their skills and knowledge for the welfare of the patient.

In addition, physical therapists work with medical personnel and community health organizations in contributing to planning programs of patient care and management. They may serve as consultants and advisers, supervise physical therapy and supportive personnel, and participate in educational activities in various settings.

REGISTRATION

To be eligible to work as a physical therapist in Florida a person must be at least 20 years old and registered under the provisions of The Physical Therapy Practice Act, Florida Statutes 486. State registration for physical therapists is administered under the auspices of the Florida State Board of Medical Examiners. Examinations for registration under this Act are given semi-annually.

PROFESSIONAL CLUBS AND ORGANIZATIONS

The University of Florida Student Physical Therapy Association is officially recognized as a campus organization.

Colleges

COLLEGE OF HEALTH RELATED PROFESSIONS

It is open to all students registered at the University who are interested in physical therapy. Its purpose is to promote personal and professional growth of its members and greater interest and understanding of physical therapy through participation in the activities of student and graduate professional organizations.

CURRICULUM

The Bachelor of Health Science in Physical Therapy is awarded upon satisfactory completion of the course requirements in the Physical Therapy Curriculum. This Curriculum is fully accredited by the Council on Medical Education of the American Medical Association in collaboration with the American Physical Therapy Association. This accreditation process is approved by the Council on Post-Secondary Accreditation. Courses must be taken in approved sequence. A Physical Therapy course in which a grade earned is "U" or below "C" will be considered completed unsatisfactorily and may not be counted towards degree requirements. To continue in the Curriculum students are expected to demonstrate interest, ability, and aptitude for professional responsibilities in Physical Therapy.

As a part of the academic requirements, students are assigned for one quarter (10 weeks) and an additional 5-week period of field experience in facilities approved by the faculty of the Department of Physical Therapy. No student will be awarded his degree or be qualified to practice physical therapy until he has satisfactorily completed these field experiences.

Satisfactory completion of these requirements is the basis for professional certification as a physical therapist: (1) in states which regulate the practice of Physical Therapy, (2) for membership in the American Physical Therapy Association, (3) for employment in general and specialized hospitals, rehabilitation centers, schools for handicapped children, public health programs, and facilities for the chronically ill, and (4) service as a commissioned officer in the Armed Services.

The sequence of professional courses in Physical Therapy will begin in the Fall quarter of each year.

Enrollment is based upon the limitations imposed by laboratory and clinical facilities and clinical materials. Admission to the University does not guarantee admission to the curriculum. A College admissions committee determines the students who are to be accepted. For the admission requirements refer to the information Requirements for Admission for the College of Health Related Professions.

The deadline for receipt of all credentials in the Department for September enrollment is the preceding March 15.

Students planning to major in Physical Therapy should contact the Department at the earliest possible date. An academic advisement session in the Department, a SCAT test and completion of a college student information form are required of all applicants. All preprofessional courses must be completed by June of the year the student wishes to enter the Curriculum. (Consult section of catalog entitled The Lower Division, Health Related Professions for listing of preprofessional course requirements.)

A limited number of post-baccalaureate students are accepted each year for a special "accelerated" program from which they receive a second baccalaureate degree. Interested students should contact the Chairman of the Department for details.

REQUIREMENTS FOR BACHELOR OF HEALTH SCIENCE IN PHYSICAL THERAPY:

FRESHMAN YEAR

	Credits
EH English	9
SSC Social Sciences	9
*CY 201, 202, 203 General Chemistry	12
*MS 102 Algebra and Trigonometry (or more advanced mathematics)	5
*PSY 201 General Psychology	4
*HRP 101 Introduction to Health Related Professions	3
Physical Education	3
Total	45

SOPHOMORE YEAR

	Credits
BES Behavioral Studies	6
HUM The Humanities	12
*ZY 201, 202 General Zoology	9
*ZY 309 Comparative Vertebrate Anatomy	5
*PS 201, 202 Applied Physics	10
PSY 345 Psychology of Personality	4
Electives	5
Total	51

JUNIOR YEAR

1st Quarter	*Credits*
PHT 301 Introduction to Physical Therapy and Community Health Concepts	3
PHT 332 Human Anatomy	3
PHT 391, Physical Therapy in Community Facilities	1
HRP 331, 332 Anatomy and Physiology with laboratory	5
Electives	2
Total	14

2nd Quarter	*Credits*
PHT 311 Clinical Science 1	5
**PHT 392 Clinical Jr. Practicum or Elective	2
HRP 417 Kinesiology	4
HRP 431 Nervous System	4
HRP 496 Independent Study (Pathology)	2
Total	15/17

3rd Quarter	*Credits*
PHT 312 Clinical Science 2	5
PHT 351 Physical Modalities	5
HRP 433 Medical and Surgical Disorders	4
PHT 393 Clinical Jr. Practicum	2
Total	16

SENIOR YEAR

1st Quarter	*Credits*
PHT 411 Therapeutic Procedures 1	4
PHT 433 Anatomy Dissection	4
HRP 434 Medical and Surgical Disorders	4
PHT 491 Clinical Practicum	3
Total	15

2nd Quarter	*Credits*
PHT 361 Community Health-Needs Services, Structure and Implications	3
PHT 412 Therapeutic Procedures 2	4
PHT 435 Survey of Surgical Procedures	4
PHT 492 Clinical Practicum	3
Total	14

3rd Quarter	*Credits*
PHT 499 Internship	12

4th Quarter	*Credits*
HRP 430 Individual Work	6
PHT 444 Survey of Patient Problems	4
PHT 461 Seminar	4
Total	14

*These are also professional requirements.
**Elective

College of Journalism And Communications

ADVERTISING
BROADCASTING
COMMUNICATION
JOURNALISM (News-Editorial)
PUBLIC RELATIONS

College of Journalism and Communications

The College of Journalism and Communications is the only such college in Florida providing accredited programs. It offers curricula leading to bachelor's degrees in three areas: Advertising, Broadcasting, and Journalism. A Public Relations sequence leads to a degree of Bachelor of Science in Journalism. The College also offers programs leading to the master's degree.

The divisions of the College are as follows: Department of Advertising and Public Relations, Department of Broadcasting, Department of Journalism, Graduate Division, and Communication Research Center. Sequences are offered in News Editing, Photojournalism, Public Relations, Public Relations in Criminal Justice, Reporting, Technical Communications, and Urban Affairs Journalism. Programs are available in Agricultural Journalism, Environmental Studies, Latin American Studies, Journalism for Teachers, and Television for Teachers.

Students gain practical experience in the University's radio and television stations, on the College's laboratory newspaper, on student publications, through Summer internship programs, and on the local daily newspaper, The Gainesville Sun.

Those specializing in the News Editing, Photojournalism, Public Relations, Public Relations in Criminal Justice, Reporting, Technical Communications and Urban Affairs Journalism will take the appropriate sequence in the Bachelor of Science in Journalism program.

Students interested in radio and television will register for the program leading to the degree of Bachelor of Science in Broadcasting. Those wishing Advertising will take the program leading to the degree of Bachelor of Science in Advertising; work in this program includes both the print and electronic media.

SPECIAL PROGRAMS

AGRICULTURAL JOURNALISM: A special program leading to a Bachelor of Science Degree with emphasis on agricultural journalism is available. Interested students should consult with the Technical Communications Adviser and with the Dean of the College of Agriculture. Agriculture students seeking a single course in handling agriculture publicity and news for newspapers, magazines and radio-television are advised to register for JM 420.

JOURNALISM FOR TEACHERS: Special training and supervised research are available for Journalism teachers and others interested in work at the high school level. Students seeking state certification in Journalism should consult with the Department of Journalism.

TELEVISION FOR TEACHERS: The College offers instruction in the use of television production techniques and their utilization in informational and educational programs. Teachers interested in this program should consult with the Department of Broadcasting.

LATIN AMERICAN STUDIES: Students with a special interest may work for a certificate in Latin American studies. These students should consult with the assistant director of the Center for Latin American Studies; additional information about the program is given in the section titled "Center for Latin American Studies."

ENVIRONMENTAL STUDIES: Students interested in reporting, writing, editing or public relations work with any governmental or private organization dealing with the environment or environmental problems are advised to use their minor requirement to develop an area minor (20 or more quarter-hour credits) in environmental studies courses, such courses to be selected from an approved list available from any College adviser.

GRADUATE DEGREE

The College of Journalism and Communications, through the Graduate School, offers a program leading to the degree Master of Arts in Journalism and Communications with a major in communication. Graduate work is offered with specialization in advertising, communication research, international communication, journalism, media management or public relations. Consult the Graduate School catalog.

COMMUNICATION RESEARCH CENTER

For information about research activities and services of the College, please write the Director, Communication Research Center, College of Journalism and Communications, Gainesville, Fl. 32611.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Journalism and Communications encourage applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this college. It should be understood, however, that minimum requirements are given and that admission to this college is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objective, pattern of courses previously completed, quality of previous academic record, and test data will all be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

University College students: To be eligible for admission to the College of Journalism and Communications, a University College student must have accomplished one of the following:

A. Earned 96 quarter hours of acceptable college credit with an overall average of C+ (2.5) or higher on all college level work attempted, or

B. Completed all lower division courses required for the desired curriculum as shown in the program for the Freshman and Sophomore years outlined in this catalog, with an overall average of C+ (2.5) or higher on all work attempted.

Transfer students: To be eligible for admission to the College of Journalism and Communications, a transfer student must satisfy the minimum requirements for admission to an upper Division College that are set forth in the ADMISSIONS section of this catalog.

Transfer students are advised to note carefully the section headed "Professional Limit," below.

All Students: All students, whether from University College, Florida community or junior colleges, or other four-year institutions, are required to complete, before graduation from the University of Florida, all courses listed under the "Lower Division" curriculum section, including preprofessional courses, or approved equivalents of these courses.

Provisional Admission: Within space limitations, students who do not meet precisely the admission requirements indicated in the appropriate section above may be granted provisional admission to the College of Journalism and Communications by the College's Committee on Admissions. The Dean of the College of Journalism and Communications will specify the courses to be completed and minimum grade points to be earned by the student during the term of his or her provisional admission. Provisional status will be removed and the student fully admitted to the College of Journalism and Communications provided he or she fulfills the conditions set forth in his or her pro-

visional admission. The student will be excluded from further enrollment in the College of Journalism and Communications if he or she fails to satisfy the conditions of his or her provisional admission.

TYPING ABILITY

All students entering the College must be able to typewrite. This ability is needed because many laboratory assignments must be typewritten.

ACADEMIC ADVISEMENT

The College maintains an advising service for students throughout the school year. Advisers in each department will talk with students about any academic matter. Each student, upon admission to the College, is assigned to an adviser for the remainder of his stay in the College. Students may change advisers, if they wish, by consulting the chairman of their department.

The most important fact a student can remember about academic advising is that he or she alone is responsible for earning his or her degree. While the College maintains its academic advisory service, and carefully works to keep accurate records of individual students, the student himself or herself is responsible for meeting all degree requirements.

Therefore, a careful reading of these requirements is advised, and each student is urged to visit his or her adviser at least once each quarter for help in checking on his or her progress.

REQUIREMENTS FOR DEGREE

To earn a bachelor's degree, a student must:

1. Complete, with passing grades, all courses required by the college faculty and approved by the University.
2. Earn at least 192 credits, part of which may be accepted by transfer from another college or university. The last 45 of these credits must be earned while the student is enrolled in the College of Journalism and Communications and is enrolled in classes at the University of Florida.
3. Earn at least an average of C(2.0) in all work attempted while a student in the College of Journalism and Communications, and at least an average of C in all work attempted in courses having the prefixes ADV, BR, JM and PR.
4. Earn a C or better in required English, required speech, Writing for Mass communications (or its equivalent), and Introduction to Broadcasing (or its equivalent), when required. Students earning below a C in any of these courses will be required to retake the course or its equivalent.

SECOND DEGREE

Students wishing to specialize in more than one field may earn a second bachelor's degree in this College by completing an additional 45 credits of work, with the necessary qualitative and residence requirements.

PROFESSIONAL LIMIT

The College stresses a broad background in liberal arts and sciences. The student spends about three fourths of his or her time on general background courses. The remaining one fourth involves the development of professional techniques in relation to this background knowledge.

Because the College insists on this broad background of general education, the number of professional credits to be applied toward graduation is limited. The College permits 55 professional credits (ADV, BR, COM, JM, and PR) to be applied toward graduation. Professional courses as defined by the College and accepted by transfer are counted toward the 55.

MINOR

A portion of the student's elective credit hours in any sequence offered by the College must be chosen from outside the College.

Minor in Advertising and Public Relations

The College's Department of Advertising and Public Relations requires that the student and his adviser select these outside credit hours in one of two ways: (1) from one department (outside the College) of at least 20 credits or (2) from two departments, one of at least 12 credits and the other of at least 10 credits.

Minor in Broadcasting

The minor in the Department of Broadcasting may be elected as, (1) a 20-hour concentration in one academic field, or (2) an area study recommended by the department to meet specific career goals. In either option, 15 of the 20 hours must be at the 300 level or above.

Minor in Journalism

The minor in the Department of Journalism totals 20 hours, of which 15 must be in courses of 300 level or above. The student must choose and develop one of two options which closest meet career ambitions, with written approval by the student's official adviser of the list of courses. Options are:

1. Secure all the credits in one other department outside the College (this option not available to students in the Urban Affairs area of specialization), or
2. Complete an Area Study, which is more flexible but permits a greater concentration of subject matter. Area studies available are Western Thought, Governmental Affairs, Urban Social Problems, Communication Sciences, Business, and Environment. Others can be arranged under advisement.

SATISFACTORY-UNSATISFACTORY

Undergraduate students in the College of Journalism and Communications may take no courses designated ADV, BR, JM or PR under the satisfactory-unsatisfactory (S-U) grade option, except courses which are offered only as S-U.

Students are encouraged to take elective courses S-U outside the College, subject to University rules published in the "Student Regulations" section of this catalog.

While no required course may be taken under the S-U option, courses for minor credit may be taken with the following restrictions (in addition to University restrictions):

1. The option may not be applied to any course below the 300 level.
2. Not more than five credits of S-U work may be offered in fulfillment of the minor requirement.
3. No basic course (for example, SY 201, MGT 310) may be offered for minor credit under S-U.

PROBATION

The College rules regarding probation are the same as the University's. These rules are described in the "Student Regulations" section of this catalog.

HONORS AND HIGH HONORS

Students achieving an overall grade point average of 3.50 on all work attempted while students in the College of

Journalism and Communications will be graduated with honors.

The College Honors Committee will consider awarding high honors to students showing evidence of superior scholarship (at least 3.60 on all work attempted while students in the College of Journalism and Communications) and professional competency. Evidence of scholastic superiority should be supported by at least two letters from former or current instructors.

Evidence of professional competency will be in forms unique to each major area, viz., internships, editorships, journalistic writing, advertising and public relations campaigns, film, television or radio productions, etc.

Students who believe their final grade point average will be at least 3.60 may apply to be considered for high honors at graduation. For specific information, students should confer with their departmental honors advisor. Judgment of evidence submitted will be made by the College Honors Committee in consultation with other pertinent faculty.

FINANCIAL AID

Students may earn money through undergraduate and graduate assistantships in this College. Undergraduate students may inquire at the office of the Dean; graduate students may inquire at the office of the Graduate Division of this College.

A limited number of scholarships, nearly all of them for Junior or Senior students, are available. Information may be obtained from the chairman of the Scholarship Committee of this College.

PROFESSIONAL AND HONORARY ORGANIZATIONS

Five national professional and honorary organizations select members from undergraduates in the College of Journalism and Communications: Society of Professional Journalists, Sigma Delta Chi; Women in Communications (formerly Theta Sigma Phi); Alpha Delta Sigma, students in advertising; and Kappa Tau Alpha, scholastic honorary for men and women. The Public Relations Student Society of America is sponsored by, and regulated by, the Public Relations Society of America.

The College is represented in these professional groups: American Association of Schools and Departments of Journalism, National Association of Educational Broadcasters, Broadcast Education Association, Florida Association of Broadcasters, Television Bureau of Advertising, Advertising Research Foundation, Florida District of the American Advertising Federation, Gainesville Advertising Federation, American Research Bureau, Television Information Office, Florida Scholastic Press Association, International Association of Business Communicators, Public Relations Society of America, Audit Bureau of Circulations, and Florida Magazine Association.

The state headquarters of the Florida Scholastic Press Association is located in the College of Journalism and Communications. The executive secretary of the association is a member of the faculty. A Summer institute for high school journalists is conducted in cooperation with the Division of Continuing Education.

NATIONAL STANDING OF COLLEGE

The College of Journalism and Communications at the University of Florida is the only such college in Florida with programs accredited by the American Council on Education for Journalism. The curricula, faculty, facilities and alumni achievements are evaluated regularly by the ACEJ, whose membership includes the American Society of Newspaper Editors, the American Newspaper Publishers Association, the National Editorial Association, the Inland Press Association, and the National Association of Broadcasters, as well as journalism educators.

LOWER DIVISION CURRICULUM

Basic Distribution Requirements

	Credits
*English (Must include at least one course in composition and/or expository writing)	9
Mathematics	4
Behavioral Studies	4
Social Science	9
The Humanities	12
**Physical Sciences	9
**Biological Sciences	9

Preprofessional Requirements

	Credits
BES 259 Cybernetics and Society	4
*JM201 Writing for Mass Communications (Student may be exempted and earn credit for course by passing a proficiency examination in writing)	4
*Public Speaking or a speaking performance course approved by the College of Journalism	4
+HY 245,246 United States History	10
+ES 201 Basic Economics I	5
*BR 212 Introduction to Broadcasting (Broadcasting majors only)	3
Physical Education	3

*Minimum grade of "C" must be earned.

**Three quarter hours of credit of either of these areas may be omitted.

+Public relations majors should see block marked "Basic Distribution Requirements" in PR Upper Division program.

ADVERTISING CURRICULUM

Leading to the Degree of Bachelor of Science in Advertising

Block 1: Required courses
These courses must be completed by all students:

	Credits
ADV 306 Elements of Advertising	4
ADV 402 Radio-TV Advertising	4
ADV 407 Public Opinion Theory and Advertising	5
ADV 410 Copywriting and Visualization	4
ADV 412 Advertising Campaigns	4
JM 409 Law of Mass Communication	4
MKG 331 Principles of Marketing	4
SY 201 Principles of Sociology	4
or	
PSY 201 General Psychology	4
or	
PSY 340 Personal Growth	4

Block 2: Professional Electives
Three or four courses to be chosen:

	Credits
ADV 403 Advertising Agency Management	4
ADV 411 Media Buying Strategy	4
ADV 415 Advertising Graphics and Production	3
ADV 420 Advanced Copywriting	4
ADV 433 International Advertising	4
ADV 450 Retail Advertising	4
ADV 465 Seminar: Ethics and Problems in Advertising	4
ADV 490 Special Study in Advertising	3
ADV 496 Individual Problems	1 to 5
BR 324 Broadcast Production 1	3
PR 414 Public Relations	4
PR 425 Business and Technical Communication	5

Block 3: Electives
One or two courses to be chosen:

JM 401 Introduction to Mass Communications Research	4

JM 407 History of Journalism..... 4
JM 419 World Communication Systems..... 4
JM 465 Mass Media and Social Trends..... 4

Any professional work beyond 55 hours must be added to the 192 hours required for graduation.

BROADCASTING CURRICULUM

Leading to the Degree of Bachelor of Science in Broadcasting.

LOWER DIVISION

Required in addition to Lower Division and pre-professional courses required of all students:

	Credits
SY 201 Principles of Sociology	4
or	
PSY 201 General Psychology	4
BR 212 Introduction to Broadcasting	3

UPPER DIVISION

Required of all Students

	Credits
BR 301 Broadcast News Writing	4
BR 302 Mass Media Processes and Effects	4
BR 318 Broadcast Writing	4
BR 324 Broadcast Production 1	3
BR 460 Seminar: Ethics and Problems in Broadcasting	4
JM 409 Law of Mass Communication	4
PCL 201 American Federal Government	5
PCL 220 American State and Local Government	3
	31

The student will choose one of the following areas:

Broadcast News and Public Affairs

	Credits
BR 424 Cinematography for TV	4
BR 436 Radio-TV Reporting	4
JM 302 Fact Finding	3
Broadcast electives under faculty advisement and approval	4
	15

Film Production

	Credits
BR 424 Cinematography for TV	4
BR 442 Documentary for TV	4
BR 438 Advanced Film Writing	3
BR 450 Communicative Elements in Film Production	4
	15

Broadcast Production

	Credits
BR 325 Broadcast Production 2	3
BR 326 Broadcast Production 3	3
BR 424 Cinematography for TV or an elective course in broadcast production	4
BR 425 The Broadcast Program	4
	14

In addition to the above requirements, students must take one course in the fine arts (such as EH 350, PPY 370, RN 365, MSC 210, or THE 220) and one course in any of the following areas: Education, Statistics, Sociology, Psychology, Marketing, Management, or Meteorology. Specific choices must be approved by a Broadcasting adviser.

Any professional work beyond 55 hours must be added to the 192 hours required for graduation.

NEWS-EDITORIAL CURRICULUM

Leading to the Degree of Bachelor of Science in Journalism.

LOWER DIVISION

Required in addition to Lower Division and pre-professional courses required of all students:

	Credits
PCL 201 American Federal Government	5
PCL 220 American State and Local Government	3

UPPER DIVISION

Required of All Students:

	Credits
JM 301 News Reporting	5
JM 302 Fact Finding	3
JM 332 Photojournalism	4
or	
JM 342 Reportorial Photography	5
JM 403 Newspaper Editing 1	4
JM 409 Law of Mass Communication	4
JM 450 Applied Journalism	5
JM 465 Mass Media and Social Trends	4
Total	29 or 30

Any professional work beyond 55 hours will be added to the student's requirements for graduation.

AREAS OF SPECIALIZATION

Student Will Select One Area

Reporting

BLOCK A

Required	*Credits*
JM 402 Public Affairs Reporting	4
JM 408 Public Opinion	5
JM 413 Magazine and Feature Writing	4
or	
JM 432 Interpretive Writing	4

BLOCK B

Choose One

JM 401 Introduction to Mass Communications Research	4
JM 407 History of Journalism	4
JM 419 World Communication Systems	4
JM 451 Investigative Reporting	4
JM 452 Urban Affairs Reporting	4

News Editing

BLOCK A

Required	*Credits*
JM 404 Newspaper Editing II	4
PR 425 Business and Technical Communication	5

BLOCK B

Choose One

JM 407 History of Journalism	4
JM 408 Public Opinion	5
JM 419 World Communication Systems	4

BLOCK C

Choose One

JM 402 Public Affairs Reporting	4
JM 413 Magazine and Feature Writing	4
JM 432 Interpretive Writing	4
JM 452 Urban Affairs Reporting	4

Photojournalism

BLOCK A

Required	*Credits*
JM 442 Advanced Reportorial Photography	5

BLOCK B

Choose One

JM 407 History of Journalism..... 4
JM 408 Public Opinion..... 5
JM 419 World Communication Systems..... 4

BLOCK C

Choose Two

JM 402 Public Affairs Reporting..... 4
JM 413 Magazine and Feature Writing..... 4
JM 432 Interpretive Writing..... 4
JM 451 Investigative Reporting..... 4
JM 452 Urban Affairs Reporting..... 4

Urban Affairs Journalism

BLOCK A

Required *Credits*

JM 402 Public Affairs Reporting..... 4
JM 408 Public Opinion..... 5
JM 451 Investigative Reporting..... 4
JM 452 Urban Affairs Reporting..... 4

BLOCK B

Choose One

JM 401 Introduction to Mass Communications Research..... 4
JM 407 History of Journalism..... 4
JM 419 World Communication Systems..... 4

Journalism Education

Students take core courses, an area in methods of teaching journalism, 40 hours of education and a minor in English or speech. Students seeking state certification in journalism should consult with the Department of Journalism.

PUBLIC RELATIONS CURRICULUM

Leading to the Degree of Bachelor of Science in Journalism.

UPPER DIVISION
BASIC DISTRIBUTION REQUIREMENTS

A minimum of 30 quarter hours must be completed from five of the following areas. These courses are ordinarily completed in the Sophomore and Junior years, but may be completed on any level as long as the necessary prerequisites are met. Courses taken to satisfy the lower division basic distribution requirement may not be counted toward satisfying the minor requirement.

Area 1 *Credits*

ES 201 Basic Economics 1..... 5
or
ES 202 Basic Economics 2..... 5

Area 2

HY 245 United States to 1877..... 5
HY 246 United States since 1877..... 5
(or any other history courses 200 level or higher).... 3-5

Area 3

PCL 201 American Federal Government..... 5
PCL 207 Modern Political Systems..... 5
PCL 209 International Relations..... 5
PCL 220 American State and Local Government..... 3
(or other political science courses 300 level or higher)..... 3-5

Area 4

PSY 201 General Psychology..... 4
PSY 313 Social Psychology..... 4
PSY 340 Personal Growth..... 4
PSY 345 Psychology of Personality..... 5
PSY 413 The Psychology of Small Group Behavior..... 4

Area 5

SY 201 Principles of Sociology..... 4
SY 202 Social Problems..... 4
SY 321 Community Growth and Change..... 4
SY 350 Urban Sociology..... 4
SY 391 Minorities in American Society..... 4

Area 6

MKG 331 Principles of Marketing..... 4
MGT 310 Principles of Management..... 4
MGT 350 Personnel Management..... 4

PROFESSIONAL COURSES REQUIRED OF ALL PR MAJORS

Credits

JM 301 News Reporting..... 5
PR 340 Editing and Graphics..... 4
ADV 407 Public Opinion Theory and Advertising..... 5
or
JM 408 Public Opinion and Editorial Writing..... 5
JM 409 Law of Mass Communications..... 4
JM 413 Magazine and Feature Writing..... 4
PR 414 Public Relations..... 4
PR 415 Advanced Public Relations..... 4
PR 425 Business and Technical Communication..... 5

Total 35

Any professional work beyond 55 hours must be added to the 192 hours required for graduation.

PROFESSIONAL ELECTIVES

Take one course in each area below. Minimum total must be 10 hours.

Area 7

JM 118 Survey of Communications..... 3
BR 212 Introduction to Broadcasting..... 3
ADV 306 Elements of Advertising..... 4

Area 8

PR 461 Seminar: Ethics and Problems in Public Relations..... 4
PR 490 Special Study in Public Relations..... 3
PR 496 Individual Problems..... 1 to 5

Area 9

Other 300 or 400-level professional course approved by adviser..... 3 to 5

TECHNICAL COMMUNICATIONS CURRICULUM

Leading to the Degree of Bachelor of Science in Journalism

This Curriculum leads to the Bachelor of Science in Journalism degree and is designed to provide specialists in communications for various technical fields. To fulfill the requirements for this degree, the student must take a core of journalism and other courses, as specified below, and select with his adviser at least 32 quarter hours of courses outside of the College of Journalism and Communications in the field of his specialization. The field of specialization is limited to technical areas. The area of specialization must be approved by a journalism adviser and the specialized courses worked out in conjunction with an adviser in the area of specialization. A total of 96 quarter hours in the Upper Division is required for the degree.

Courses *Credits*

PCL 201 American Federal Government..... 5
PCL 220 American State and Local Government..... 3
JM 301 News Reporting..... 5
PR 340 Editing and Graphics..... 4
JM 342 Reportorial Photography..... 5
EH 403 Report Writing..... 4
ADV 407 Public Opinion Theory and Advertising..... 5
JM 409 Law of Mass Communication..... 4
JM 413 Magazine and Feature Writing..... 4
PR 414 Public Relations..... 4
PR 425 Business and Technical Communication..... 5
*Field of Technical Specialization..... 32
Electives..... 16

96

*Fulfills minor requirement. Any professional work beyond 55 hours must be added to the 192 hours required for graduation.

PUBLIC RELATIONS IN CRIMINAL JUSTICE CURRICULUM

Leading to the Degree of Bachelor of Science in Journalism

UPPER DIVISION
BASIC DISTRIBUTION REQUIREMENTS

A minimum of 30 quarter hours must be completed from five of the following areas. These courses are ordinarily completed in the Junior and Senior years, but may be completed at any level as long as the necessary prerequisites are met. Courses taken to satisfy the basic distribution requirement may not be counted toward satisfying the minor requirement.

Area 1

ES 201 Basic Economics 1 (5 credits); ES 202 Basic Economics II (5); MGT 310 Principles of Management (4); MGT 350 Personnel Management (4); MGT 410 Principles of Organization (4); MKG 331 Principles of Marketing (4).

Area 2

HY 245 United States to 1877 (5 credits); HY 246 United States since 1877 (5); HY 454 Studies in American Civilization (4); APY 400 The Nature of Culture (5).

Area 3

PCL 201 American Federal Government (5); PCL 207 Modern Political Systems (5); PCL 220 American State and Local Government (3); PCL 325 Urban Politics (5); PCL 335 Civil Liberties (5); PCL 401, 402, 403 American Constitutional Law (3); PCL 411 Public Administration and the Political Process (5); PCL 412 Policy Conflict in American Society (5); PCL 417 Administration of Justice (5); PCL 418 Social Effects of the Law (5); PCL 422 Legislative Politics (5).

Area 4

PSY 201 General Psychology (4); PSY 313 Social Psychology (4); PSY 345 Psychology of Personality (4); PSY 412 Human Conflict and Accord (3); PSY 413 Psychology of Small Group Behavior (4); PSY 449 Abnormal Psychology (5).

Area 5

SY 201 Principles of Sociology (4); SY 202 Social Problems (4); SY 321 Community Growth and Change (4); SY 391 Minorities in American Society (4); SY 429 Complex Organizations (4); SY 481 Collective Behavior (4); SY 486 Criminology (5); SY 487 Juvenile Delinquency (4); 5Y 494 Black America: Current Problems (4).

Area 6

Any course offered in an upper division criminal justice sequence.

Professional Courses Required of ALL PRCJ Students

	Credits
JM 301 News Reporting	5
ADV 407 Public Opinion Theory and Advertising	5
JM 409 Law of Mass Communication	4
PR 414 Public Relations	4
PR 415 Advanced Public Relations	4

(Student will elect to complete a Broadcast or Print emphasis.)

Professional Courses Required for Students Who Desire a **Broadcast** Emphasis

	Credits
BR 212 Introduction to Broadcasting	3
BR 324 Broadcast Production 1	3
BR 325 Broadcast Production 2	3
BR 326 Broadcast Production 3	3

Professional Courses Required for Students Who Desire **Print** Emphasis

	Credits
PR 340 Editing and Graphics	4
JM 413 Magazine and Feature Writing	4
PR 425 Business and Technical Communication	5

PROFESSIONAL ELECTIVES FOR PRCJ MAJORS

Same as those listed in the Public Relations curriculum; See Areas 7, 8 and 9.

CRIMINAL JUSTICE MINOR

All students must complete a minimum of 20 quarter hours in an approved Criminal Justice sequence, either at the lower division or upper division level.

Center for Latin American Studies

The Center for Latin American Studies is the University unit responsible for directing or coordinating interdisciplinary instructional and research programs related to Latin America. It is a budgeted unit within the University and is administered by a director immediately responsible to the President reporting through the Vice President for Academic Affairs.

UNDERGRADUATE PROGRAM IN LATIN AMERICAN STUDIES

For students interested in Latin American Studies, the College of Arts and Sciences, the College of Journalism and Communications, the College of Business Administration, and the College of Education offer a special curriculum leading to the B.A. or B.S. degree and a Certificate in Latin American Studies. The program is designed to provide a broad cultural base for students who plan to do graduate work in the field or who plan careers with Latin American connections in business, government, or teaching. This course of study is particularly helpful to students interested in teaching about Latin America, in business dealing with Latin America, or in positions with the U.S. Government in such agencies as the Department of State, the United States Information Agency, the Department of Commerce, the Department of Labor, and the Defense Department.

The Certificate Program is based on a departmental major leading to the Degree of Bachelor of Arts. In the College of Arts and Sciences, this major may be selected from the following fields: Anthropology, Economics, Geography, History, Political Science, Portuguese, Sociology and Spanish. Through special arrangements with the College of Journalism and Communications, the College of Education and the College of Business Administration, undergraduates in the departments of those colleges may take sufficient courses in Arts and Sciences to qualify for a B.S. Certificate in Latin American Studies. In all Colleges, the student must fulfill College and Departmental requirements for the B.A. or B.S. degree. In addition, these special requirements exist: (1) The student must include 36 hours of courses with Latin American emphasis. Courses taken within the major may be counted in fulfillment of this requirement, but language courses below the 200 level may not be counted. (2) In addition to courses in the major, the student must take at least three courses outside of the major as part of the 36 hours. One course must be taken in the social sciences and history; one in literature, music, art, and the humanities; and one in either of these two course groups or in languages and linguistics or from among a group of professional courses. (3) Each certificiate candidate must take the Center's undergraduate interdisciplinary seminar, LA 440. (4) The student must demonstrate reading and speaking knowledge of Spanish or Portuguese. This last requirement may be satisfied either through course work or examination. The Certificate Program provides for a special concentration in Brazilian Area and Portuguese Language Studies.

All students completing the requirements of the special curriculum in Latin American Area Studies will receive a Certificate testifying to their completion of the requirements. Arrangements may be made so that students undertaking this curriculum may, if desired, spend one or two terms taking classes at a Latin American University. The Universidad de los Andes Program in Bogota, Colombia is an excellent example of this alternative. (See "Study Abroad" below).

Students preferring to major directly in Latin American Studies at the B.A. level may apply to do so under the individual interdisciplinary option available through the College of Arts and Sciences.

Undergraduates interested in either of these programs including those enrolled in the University College, should consult with the Program Adviser, Room 319, Center for Latin American Studies, Grinter Hall, and with their departmental academic advisers. Those interested in the individual option of a B.A. major must also consult with the undergraduate office of the College of Arts and Sciences.

STUDY ABROAD

Agreement between the State University System of Florida and the Universidad de los Andes in Bogota, Colombia, allows students to study abroad for up to one year. The program is administered by the Center for Latin American Studies of the University of Florida.

While enrolled at the Colombian university, students are housed in private Colombian homes. They immerse themselves in the Spanish language and in the day-to-day living experience of Colombian culture. The Universidad de los Andes is organized similar to U.S. universities, and credits are transferrable. Total cost for the program amounts to about the same as would be paid by a student in residence at any university of the State University System of Florida. Bogota, the city in which the Universidad de los Andes is located, offers a variety of music, art, theater and museums. It enjoys a year-round, Spring-like climate. Interested students should contact the program adviser, 319 Grinter Hall.

The principal features of the program are:

Length of Program: Interested students may attend an *Intensive Course in Spanish For Foreign Students* from mid June to late July. In addition, they may take two regular semesters in residence, August to December and January through May.

Courses: All credits earned at Universidad de los Andes are transferrable to the Florida institution on the basis of prior approval of student's U.S. adviser or Registrar. Arts and Sciences majors must have prior approval of the Dean of the College.

Faculty: The greater part of the faculty of Universidad de los Andes have received graduate degrees or training in the United States or other foreign countries.

General Educational Requirements: Applicants should have completed at least 48 quarter hours of college or university work.

Academic Prerequisites: An academic average of 2.5 or better on all work completed at U.S. institutions, over a period of four quarters.

Language Prerequisites: A minimum of four quarters of college level Spanish, completed before departure, or a certificate stating that student has completed a functional Spanish language test, or permission of program director.

Tuition: Same as for Colombian students, approximately $175 US for the Summer Intensive Language course and approximately $400 US for each semester.

Housing: While in residence at Universidad de los Andes, U.S. students may be housed in approved private Colombian homes. Cost will be approximately $100 US per month for room, meals and laundry.

Travel Costs: Fall 1976, rates subject to change: Round trip Miami-Bogota, valid for one year $359, Gainesville-Bogota $441. Cheaper group travel rates are available for Summer Spanish course. APPLICATION DEADLINES, *Two months* prior to departure.

The Center is initiating a Portuguese Summer program in Rio de Janiero in 1977.

OTHER ACTIVITIES

In addition to the Bogota program, the Center sponsors bi-weekly colloquia, yearly conference, a major monograph and publications series, a bi-monthly Newsletter, and occasional art exhibits and concerts.

College of Law

THE COLLEGE OF LAW, founded in 1909, began its work in the Thomas Hall Dormitory for men. The Law Building, built in 1914, was one of the first permanent units on the campus. The College was accredited by the New York State Board of Regents in 1917, admitted to membership in the Association of American Law Schools in 1920, and recognized as an approved school by the American Bar Association in 1925.

In January of 1969, the College occupied its new academic building. The academic building, in addition to classroom, courtroom, and administrative space, contains a library housing over 200,000 volumes with capacity for an additional 60,000 volumes.

The curriculum of the College is arranged so that the courses prescribed for the first year assure a sound foundation for further study. During the final quarters a wide election is afforded. The student, under this arrangement, may concentrate upon such subject areas as are of particular interest.

The goal of the College is to impart a thorough, scientific and practical knowledge of the law, together with an understanding of its role in a democratic society. It aims to develop keen, efficient lawyers who will respect the ideals and traditions of the profession. The policy of the College places emphasis upon practical skills as well as legal theory; problems of the modern world as well as historical perspective; the creative aspects in the drafting of documents as well as in the body of legal doctrines.

The College of Law offers a program leading to the degree of Juris Doctor. Admission is limited to those with a baccalaureate degree from a qualified institution who have achieved a satisfactory undergraduate grade point average and score on the Law School Admission Test (LSAT). All applicants must register with the Law School Data Assembly Service (LSDAS). Both the LSAT and LSDAS are administered by Educational Testing Service in Princeton, N.J. One can obtain the Law School Admission Bulletin with LSAT/LSDAS application from the Admissions Office of the University or the College of Law Administration Office.

The College also offers a course of instruction leading to the degree of Master of Laws in Taxation. Admission to the Masters program is limited to applicants who have attained the first degree in law from a school accredited by the Association of American Law Schools or the American Bar Association, and applicants are selected for admission on the basis of a demonstrated potential for successful completion of the program. In general, the LL.M. degree is earned by full-time study over the course of an academic year.

For detailed information on admission requirements, courses and programs, see the College of Law catalog and the Graduate catalog. Both catalogs can be obtained by writing the Director of Admissions, University of Florida, Gainesville, Florida, 32611.

LAW-CENTER ASSOCIATION FINANCIAL AID

The College's private alumni association has established a revolving fund to provide low-interest loans to entering students who demonstrate financial need and great promise of academic success. Repayment on these loans may be started up to five years after the recipient's departure from the College, and the total repayment period may be extended to ten years.

Applicants seeking the financial aid described above must participate in the Graduate and Professional School Financial Aid Service (GAPSFAS). GAPSFAS applications may be obtained by writing to Box 2614, Educational Testing Service, Princeton, N.J. 08540, or the College of Law Administration Office. The GAPSFAS report must be received on or before November 1, for the following Spring entrants and March 1, for the following Fall entrants. Interested minority applicants should communicate directly with the Coordinator of Minority Affairs or the College of Law for information.

College of Medicine

The College of Medicine, a unit of the J. Hillis Miller Health Center, began operations in 1956 and is located on the south end of the campus. This location in direct proximity to University facilities offers many opportunities to engage resources of the University in the educational and investigative programs of the College. For example, there exist joint programs with the Division of Biological Sciences, and the College of Engineering as well as with the other colleges of the Health Center. Also, computational and statistical services are available through University resources.

The College of Medicine is responsible for several major educational programs. Foremost is the four year program leading to the M.D. degree into which 118 students are accepted annually. After graduation the young physicians enter residency programs. Presently, the College of Medicine offers approximately 300 such positions. The basic medical science departments offer the Ph.D. degree in the Medical Sciences with specialization in Anatomy, Immunology and Medical Microbiology, Neuro-science, Pathology, Pharmacology and Therapeutics, and Physiology.

The Department of Biochemistry and Molecular Biology (College of Arts and Sciences) located in the Medical Sciences Building also offers the Ph.D. and M.S. programs. Further training is offered through a number of positions for post-doctoral research fellows in all basic science and clinical departments. The clinical departments conduct frequent seminars as part of their continuing education program for practicing physicians, In addition, some of the clinical departments have assumed responsibility for community medicine programs in communities surrounding Gainesville.

The faculty is dedicated to a teaching program of high quality. Close faculty-student relationship is encouraged by the design of the four year curriculum. The educational program is structured to enable the graduate to choose any career offered in medicine. Therefore, emphasis is placed on understanding of fundamental biological principles, and their relevance for the practice of medicine.

Students intending to apply for admission should complete the requirements for a Bachelor's degree although a limited number of exceptional students may be considered for admission at the end of their third year of college. An applicant to the College of Medicine must have personal qualities of the highest order — character, integrity, intellectual honesty, responsibility, maturity, initiative, and aptitude. In addition, the students must have demonstrated superior intellectual achievement during undergraduate work.

An honors program exists for undergraduate students who have chosen a career in the medical profession and who have demonstrated both superior scholastic ability and personal development during their first two college years. Students are chosen for the program at the end of their Sophomore year. The third year consists of 2/3 arts and sciences and 1/3 college of medicine credit. The latter is offered in a seminar form. Conversely, the fourth year is partitioned into 1/3 arts and sciences - 2/3 college of medicine. Since the College of Arts and Sciences grants academic credit for all of the third year work and part of the fourth year work, a participating student receives a BS Degree and completes one year of medical school in a total of four years. Early entry into medically oriented instruction with sensible acceleration of education is obtained without loss of the important components of a broad education. The program is limited in size to 15 students per year in order to retain the discussion seminar format.

Unusually gifted students may enter a combined M.D.-Ph.D. program which offers a unique opportunity of integrating clinical experience with competence in basic biomedical research. This program is a consequence of the dependence of the practice of medicine on scientific advances in the biological sciences.

Since 1971, the College of Medicine has developed, with Florida State and Florida A and M Universities, an innovative, interinstitutional plan for medical education which integrates the first year of the medical school curriculum with the undergraduate degree programs of FSU and FAMU. Students receiving *secured status* from the FSU-FAMU Program in Medical Sciences are guaranteed entry into the second year of the medical curriculum.

The College of Medicine has responsibility for patient care, teaching and research at the Veterans Administration Hospital located next to the J. Hillis Miller Health Center. A formal affiliation was established with the Jacksonville Hospitals Educational Program in 1969 for the purpose of providing combined educational and clinical resources. In addition the College is involved in several projects concerned with Community Health Care.

Further detailed information will be found in the College of Medicine or the Graduate School catalogs. Copies may be obtained by writing to the Registrar, University of Florida, Gainesville, Florida 32611.

College of Nursing

GENERAL STATEMENT

The purposes of the College of Nursing are to conduct undergraduate and graduate degree programs in nursing; to conduct nursing internships and residency programs; to create the structure and climate that will promote colleague relationships with staff in the broad health field; to conduct nursing research; and to conduct continuing education programs in nursing.

The establishment of the College of Nursing within the frame-work of the J. Hillis Miller Health Center at the University of Florida offers a unique opportunity to provide collegiate and professional development for nursing in a university setting. The Shands Teaching Hospital of the J. Hillis Miller Health Center houses outpatient clinics, an ambulatory unit, a psychiatric unit, and hospital units for seriously ill patients. Other community facilities, such as public health agencies, community hospitals and outreach clinics are also used to prepare students for beginning professional nursing positions. The student has opportunities for supervised observation and practice in selected phases of health care.

The nursing profession applies scientific and humanistic processes to the solving of nursing problems of individuals, families, and communities. The efforts of nursing are directed toward the nurturing, comforting, strengthening, teaching, maintaining, environmental supervising, and motivating of clients.

The program of the College of Nursing is fully accredited by the National League for Nursing and is approved by the Florida State Board of Nursing.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Nursing encourage applications from qualified students from all cultural, racial, religious, and ethnic groups.

Preparation for professional practice requires a very careful selection of learning experiences and adequate supervision and guidance. Therefore, applicants are considered by the Admissions Committee as candidates for admission to the College within established numerical limits. Admission to the nursing major is open in all quarters.

Listed below are the specific requirements for admission to this College. It should be understood however that minimum requirements are given and that admission to this College is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission.

To be eligible for admission to the College of Nursing, the Transfer student (including the University College student) must:

1. Satisfy the minimum requirements for admission to a specific College that are set forth in the ADMISSIONS Section of the University catalog.
2. Earn at least 96 quarter hours (including three (3) quarter hours in physical education) of acceptable College credit with an overall average of "C+" or higher on all college level work attempted.
3. Complete all lower division courses indicated in the pre-nursing curriculum for students planning to enter the College of Nursing.
4. Pass all required preprofessional courses at a "C" level or better.
5. Show evidence of sound physical and mental health.

The following information will serve as a guide in expediting entry into the College of Nursing in compliance with the above requirements.

Application for admission to the upper-division, College of Nursing, should be made as soon as the student has enrolled in the term in which he will complete the 96 quarter hours of university work.

Deadline for the receipt of applications by the College of Nursing is nine (9) weeks in advance of the beginning of each quarter. Applications received after the deadline will be processed on a space available basis.

Upon receipt of transcripts and application information required by the College of Nursing, all applicants will be individually screened. After this initial screening candidates will be notified of their admission status. Qualified applicants will then be invited for personal interviews. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the professional field of nursing.

Pre-Nursing Curriculum

GENERAL EDUCATION:

The following courses must be completed prior to admission to the professional nursing major. The courses or acceptable equivalent may be incorporated in the general education requirements of a community college or university college (See section on Nursing under University College.)

Courses	*Qtr. Hr. Credits*
English (Expository and Argumentative Writing is required)*	9-12
Math (Algebra and/or Trigonometry — required.)	5
Social Science	6
Anthropology or Sociology	5
Physical Science (Chemistry is required)	10
Biological Science other than Human Anatomy and Physiology and Microbiology (Biological Sciences CBS 211, 221, 231, Intro. to Zoology Lab and Physical Anthropology are recommended)**	9-10
Humanities	12
Behavioral Studies (Intro. to Humanistic Psychology is recommended)	8
Physical Education	3
sub-total	69
Pre-Professional:	
Microbiology	3-5
Human Nutrition	4
Developmental Psychology or Human Growth & Development	4
Human Anatomy and Physiology***	4
sub-total	15
Electives	12
TOTAL	96

* If 9 hours of English is clepped this course must be taken in addition to clep hours.

** Two Biological Science courses must be taken *exclusive* of Anatomy and Physiology.

*** If Human Anatomy and Physiology is not available in lower division, it may be taken in the first quarter of upper division and electives must be increased to *16* quarter hours.

NOTE: Revisions in course requirements will be in effect for the Fall 1977 Quarter. However, students should attempt to arrange to take these courses if possible.

PROVISIONAL ADMISSION

Students with a 3.0 ("B") average or above who have satisfied all requirements for admission to the University, but lack one or more of the prescribed prerequisites for the nursing program, but not exceeding (1) quarter of full time course work, may request sponsorship status by the Col-

lege of Nursing to complete such courses at the University of Florida. Sponsored students will be classified 3NR; however, their continuation in this status is temporary. The Admissions Committee will specify the courses to be completed and the minimum grade point to be earned by the student during the term of the sponsorship. Applicants for sponsorship are required to go through the entire admission process and be considered eligible for admission pending satisfactory completion of required courses.

REQUIREMENTS FOR DEGREE

To be eligible for the degree Bachelor of Science in Nursing the student must:

1. Satisfactorily complete all courses required by the College faculty and approved by the University.
2. Earn at least 198 credit hours, 96 of which must be earned before entering the College of Nursing.
3. Complete the work of the upper division with an overall 2.0 grade point average or better.
4. Earn a grade of "C" or better in each nursing course. Students earning below a "C" in any nursing course will be required to retake the course or its equivalent. A nursing course may be repeated only once.

GRADUATION WITH HONORS

Graduation with Honors — To graduate with Honors, a student must have completed the work of the upper division and must have received a grade point average of 3.50 or higher for all upper division work.

Graduation with High Honors — To graduate with High Honors, a student must have received a grade point average of at least 3.75 in all upper division work.

RESIDENCE REQUIREMENT

The College of Nursing complies with the requirements for residency as stated in the section — *Student Regulations-Degrees and Graduation,* University of Florida catalog.

LICENSURE

Upon satisfactory completion of the program, the graduate will be awarded the degree of Bachelor of Science in Nursing and is then eligible for the Florida State Board of Nursing examination for state licensure as a Registered Professional Nurse.

HEALTH POLICIES

The College of Nursing requires evidence of sound physical and mental health for admission. The College also requires the student to have specified immunizations and health screening tests periodically. These requirements are subject to change depending upon current knowledge and practice relating to health care. An annual health examination is recommended.

Each student registered in clinical nursing courses is expected to have adequate hospitalization insurance. Students eligible for the health insurance plan sponsored by the Student Government may purchase it at the time of registration.

UNIFORM INFORMATION

In order to participate in the activities of the first clinical course, all nursing students will be required to purchase a name pin, white nursing shoes, bandage scissors, a watch with a second hand, a stethoscope, and a pen light. In addition, the female student will need to purchase white uniform dress or pant suit with white tunic top, cap (optional), and white or natural hose; and the *male student* will need white trousers with white tunic top, white socks, and white belt. The white uniforms may be purchased by the student from any store which carries such merchandise. Emblems which designate College of Nursing student classification are purchased from the bookstore in the Medical Science Building. They are worn on the left sleeve near the shoulder seam. (Uniform policies are subject to review and approved by students and faculty before changes are made.)

EXPENDITURES

The student is referred to the section in the University of Florida catalog for information about expenses.

Some nursing courses require experience away from the campus. For such courses, the student will need to provide her own transportation.

CURRICULUM

The Nursing program is four years in length. During the first two years at another institution or University College, instruction is centered around the comprehensive courses to give the student a full, rich background for citizenship and a professional career.

The Nursing major involves professional experience in a variety of clinical settings for in-patient and out-patient care of individuals. These experiences include community health agencies, hospitals, primary service institutions and homes. Nursing courses involve extensive classroom activities correlated with supervised observation and practice in the understanding, prevention, maintenance, and curative processes of health care.

FIRST QUARTER

Course	*Credits*
NSG. 305 Dynamics of Human Behavior I	4
NSG. 315 Nursing Process I	6
*MED. 331 Human Anatomy and Physiology	4
Total	14

SECOND QUARTER

Course	*Credits*
NSG. 306 Dynamics of Human Behavior II	5
NSG. 316 Nursing Process II	8
NSG. 325 Professional Socialization	2
Total	15

THIRD QUARTER

Course	*Credits*
NSG. 307 Dynamics of Human Behavior III	5
NSG. 317 Nursing Process III	8
Total	13

FOURTH QUARTER

Course	*Credits*
NSG. 405 Health Problems I	5
NSG. 415 Nursing Process IV	8
Total	13

FIFTH QUARTER

Course	*Credits*
NSG. 406 Health Problems II	5
NSG. 416 Nursing Process V	8
Total	13

SIXTH QUARTER

Course	Credits
NSG. 407 Health Problems III	5
NSG. 417 Nursing Process VI	8
NSG. 425 Professional Socialization	3
Total	16

SEVENTH QUARTER

Course	Credits
NSG. 418 Nursing Process VII	10
Total	10

Total Professional Nursing	Total 94
Additional Electives	10
Total Curriculum Requirements	104

TOTAL CREDITS

General Education	77
Pre-professional Education	18
Professional Nursing Requirements	104
Grand Total Credits	199
Minimum Required for Graduation	198

*If Anatomy and Physiology is taken at another institution, the student may take an elective at this time.

Elective Nursing courses are available to all students. (See Course Description section).

HONORARY ORGANIZATIONS SIGMA THETA TAU, INC.

Sigma Theta Tau, Inc. is the only National Honor Society of Nursing in the United States. Constituent chapters, such as Alpha Theta Chapter at the University of Florida, are established in collegiate schools of nursing accredited by the National League for Nursing. Sigma Theta Tau, Inc. is professional rather than social, and its purposes are: to recognize the development of leadership qualities; to foster high professional standards; to encourage creative work; and to strengthen commitment on the part of individuals to the profession of nursing. Members are chosen for this organization primarily on the basis of scholastic average and leadership ability.

COLLEGE OF NURSING STUDENT COUNCIL

The Nursing Student Council works cooperatively with the faculty and students of the College of Nursing on matters which involve the nursing faculty and student body. The council functions are: (1) to serve as a two-way channel of communication between faculty and students; (2) to act as a review committee to appoint student representatives to the faculty-student committees; (3) to serve as a fact-finding body for matters of concern relating to the students of the College of Nursing; and (4) to organize and promote College of Nursing social functions. Council representatives are elected from each rotation every September.

STUDENT NURSES' ASSOCIATION OF FLORIDA (SNAF)

The Student Nurses' Association of Florida (SNAF) is a preprofessional organization designed to orient the nursing student to eventual membership and participation in the professional organization, the American Nurses' Association.

Some of the projects undertaken by SNAF include: (1) resource assistance for state board examinations; (2) participation in community and charitable projects; (3) recruitment and orientation of prospective nursing students to this program; (4) participation in various interests in the College of Nursing affecting the student body as a whole; and (5) gathering information regarding pending legislation affecting the nursing profession.

SNAF is organized and implemented by nursing students, and its success depends entirely on active participation and membership of all nursing students.

STUDENT FINANCIAL AID

Information relating to sources of financial aid, as well as information relating to student employment may be obtained from the Office of Student Financial Aid.

Additional information relating to financial aid may be obtained from the office of the Dean of the College of Nursing.

MASTER OF NURSING DEGREE

The College of Nursing offers the Master of Nursing (nonthesis) and the Master of Science in Nursing (thesis) degrees. Areas of specialization include Women-Infant Health Care, Child Health Nursing, Psychiatric Mental Health Nursing, Adult Health Care, and the functional areas of teaching, administration, and clinical specialization.

Consult the Graduate School catalog.

PHARMACEUTICAL CHEMISTRY
PHARMACY

College of Pharmacy

GENERAL STATEMENT

The Profession of Pharmacy has expanded and become more oriented toward several fields of specialization in the past decade. Such areas as product development, drug design and *in vitro* and *in vivo* transformation of drugs are of greater inportance today than ever before. Changes in the delivery of health care will have a pronounced influence on Pharmacy, as well as the entire health field and will require pharmacy graduates of varying backgrounds of specialization.

The present curriculum of 141 quarter hours is designed to provide a variety of career opportunities to the pharmacy graduate. It is arranged to prepare the graduate for excellence in a field of desired emphasis or specialization. All students are required to complete a basic core of courses and an additional number of electives comprising a balance of cultural and professional subjects.

The curriculum provides instruction in subjects which are essential for the successful practice of the profession in community, hospital, and institutional pharmacies. Men and women graduates are in demand as sales representatives for wholesale and manufacturing pharmaceutical firms. They are eligible for a limited number of commissions in the U.S. Public Health Service and the Armed Forces. The courses provide a strong basis for additional study in preparation for research or analytical work in the pharmaceutical, chemical, biological, and cosmetic industries as well as inspection of food and drugs.

The College of Pharmacy, a unit in the J. Hillis Miller Health Center, meets the highest requirements of pharmaceutical instruction in this country. The College is accredited by the American Council on Pharmaceutical Education and therefore receives recognition for its courses from state boards requiring graduation from an accredited college of pharmacy as a prerequisite for examination and registration. The College is a member of the American Association of Colleges of Pharmacy and complies with its educational requirements.

The equipment includes pharmaceutical machinery for manufacturing dosage forms on a pilot-plant scale and modern facilities for undergraduate and graduate work in pharmacy and pharmaceutical chemistry.

A ten-acre tract is used by the College of Pharmacy for a medicinal plant garden. This teaching adjunct is a source of supply of fresh material for study, investigation, and classroom illustration.

Students in the University College who plan to major in pharmacy are urged to contact the office for Student Affairs of the College of Pharmacy for assignment to counselors in the College and to confer with them regularly. Literature describing the opportunities in Pharmacy may be secured in the Office for Student Affairs.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Pharmacy encourage applications from qualified students from all cultural, racial, religious and ethnic groups. Listed below are the specific requirements for admission to this College. Admission to this College is a selective process; therefore, meeting the minimum requirements for admission does not automatically guarantee acceptance. The dean and faculty of the College of Pharmacy are aware of the need to graduate an increasing number of qualified pharmacists. However, due to limitations of staff and facilities, the College has had to establish quotas for the admission of new students. Through the Admissions Committee, the College of Pharmacy selects eligible applicants on an annual basis within its established quota. The quota is currently set at 125 new students each year. Because of the large number of applications, the College of Pharmacy reserves the right to refuse consideration to any application for admission received by the University Registrar after March 1 of the year in which the student wishes to enter; all applications received by that date will be reviewed and given careful consideration.

The Admissions Committee of the Office for Student Affairs will consider such factors as educational objectives, adequacy of prerequisites, student performance and academic record, completion of the recommended prepharmacy program in the normal period of time, motivation for scholarly achievement and a career in the profession, test data, interview evaluation, and the student's personal record.

Students demonstrating evidence of academic excellence, a strong motivation for a career in the pharmacy profession and an acceptable interview evaluation will be given priority for admission and will be notified of their acceptance. Applicants whose qualifications clearly indicate that they will not be selected within the quota will be notified at the earliest possible date.

Since only one sequence of the required professional courses is offered each year, admission of new students to the College of Pharmacy is limited to the fall quarter. An applicant who is not selected under the established quota should notify the University Registrar, Admissions Section, in writing if he wishes to be considered for admission for the following academic year.

All applicants are required to take the Pharmacy College Admission Test (PCAT). Request for information and application form to take the PCAT should be directed to: Pharmacy College Admission Test, The Psychological Corporation, 304 East 45th Street, New York, New York, 10017. Examinations are held on a Saturday three times a year, usually the second week in November, February, and May. For applicants residing in Florida, the test may be taken in Gainesville, Miami, Tallahassee, or Tampa. Students taking the PCAT should request that scores be sent to Dr. Charles H. Becker, Assistant Dean, Office for Student Affairs, College of Pharmacy, University of Florida, Gainesville, Florida 32610.

It is recommended that students take the PCAT in the fall, usually given in November. Application for the fall test (November) must be submitted by the middle of October to The Psychological Corporation. It is important to have PCAT scores sent to the College of Pharmacy as soon as possible, to prevent delays, since interviews of applicants start in December or earlier.

University College Students: To be eligible for admission to the College of Pharmacy the applicant must have: (1) earned at least 96 quarter hours of acceptable college credit with an overall average of "C" or higher on all college level work attempted; (2) completed all lower division courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the University College section of this catalog; and (3) passed all required preprofessional courses within the lower division curriculum.

Transfer Students: To be eligible for admission to the College of Pharmacy, a transfer student must satisfy the minimum requirements for admission to an Upper Division College that are set forth in the ADMISSIONS Section of this catalog. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Pharmacy: (1) The applicant must have completed the courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the University College section of this catalog or their equivalent; and (2) passed all required preprofessional courses with a minimum grade of "C". The following conditions will serve as a guide in expediting transfer to the College of Pharmacy in compliance with the above requirements.

A. Students attending four-year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore Years for students planning to enter the

College of Pharmacy as outlined in the University College section of this catalog.

B. Junior College Students Should:

1. Complete the two-year college parallel program at the junior college.
2. Satisfy the general education requirements established for the junior college
3. Complete the following prerequisites:
   a. A one-year program in general chemistry
   b. A one-year program in organic chemistry
   c. a one-year program in physics
   d. A one-year program in the biological sciences
   e. A mathematics program through the first course in calculus

RESIDENCE REQUIREMENT

In keeping with the requirements for accreditation, all students expecting to earn the degree of B.S. in Pharmacy must be enrolled in one or more pharmacy courses for a minimum of nine quarters. This regulation applies regardless of the number of studies completed in other fields.

BACHELOR OF SCIENCE IN PHARMACY

The Degree of Bachelor of Science in Pharmacy is awarded on completion of the curriculum as outlined. In order to graduate, (a) a student must have at least an overall 2.00 grade point average for all courses taken while enrolled in the College of Pharmacy, and (b) he must also have a minimum 2.00 point average in all required basic courses in the pharmacy curriculum exclusive of electives.

GRADUATION WITH HONORS

To be considered for graduation with Honors, a student must not have less than a 3.2 point average in all courses completed in the College of Pharmacy.

To graduate With High Honors, a student must meet the requirements for graduation With Honors and be recommended for graduation With High Honors by the faculty. No more than five percent of the graduating class will be considered for High Honors.

CURRICULUM

To be eligible for the degree of Bachelor of Science in Pharmacy all requirements of the curricula for pharmacy students in both the University College and the College of Pharmacy must be completed. The professional sequence of courses is on an annual basis beginning only in September each year. Students transferring to Pharmacy should contact the Office for Student Affairs, College of Pharmacy, J. Hillis Miller Health Center. All entering students will be required to complete the basic courses listed below.

The remaining credits will comprise a balance of cultural and professional elective courses approved by the student's faculty adviser. Areas of specialization such as General Practice, Industrial Pharmacy and Research Pharmacy are available.

The curriculum for the three professional years is as follows:

PROFESSIONAL CURRICULUM

FIRST PROFESSIONAL YEAR

First Quarter	*Credits*
PHY 361 Anatomy-Physiology	5
PHY 301 Pharmaceutics 1	5
PHY 300 Introduction to Pharmacy	2
*Electives	5
Total	17

Second Quarter	
PHY 363 Anatomy-Physiology	5
PHY 303 Pharmaceutics 2	5
PHY 315 Practicum Clerkship	5
or	
*Electives	5
Total	15

Third Quarter	
MCY 302 Microbiology	5
PHY 307 Pharmaceutics 3	5
PHY 315 Practicum Clerkship	5
or	
*Electives	5
Total	15

SECOND PROFESSIONAL YEAR

First Quarter	*Credits*
PCY 445 Analytical Pharmaceutical Chemistry	4
PCY 455 Pharmaceutical Chemistry 1	5
BCH 411 Biochemistry	5
PHY 415 Practicum Clerkship	3
or	
*Electives	3
Total	17

Second Quarter	
PCY 456 Pharmaceutical Chemistry 2	5
BCH 412 Biochemistry	5
PHY 403 Pharmaceutics 4	4
PCY 447 Analytical Pharmaceutical Chemistry	2
or	
PHY 415 Practicum Clerkship	3
Total	16 or 17

Third Quarter	
PCY 457 Pharmaceutical Chemistry 3	5
PCY 461 Natural Products	4
PLY 465 Physiology-Pharmacology 1	5
PCY 447 Analytical Pharmaceutical Chemistry	2
or	
*Electives	3
Total	16 or 17

THIRD PROFESSIONAL YEAR

First Quarter	*Credits*
PLY 491 Physiology-Pharmacology 2	5
PHY 453 Pharmacy Law	5
PHY 497 Therapeutics	4
PHY 495 Practicum Clerkship	3
Total	17

Second Quarter	
PLY 492 Physiology-Pharmacology 3	5
PHY 463 Public Health, and Communicable Diseases	4
*Electives	5
Total	14

Third Quarter	
PHY 490 Professional Practice	4
*Electives	8
	12
Total hours	141

*Cultural or Professional Electives

PHY 495 will be offered each quarter.

AREAS OF SPECIALIZATION

General Practice

The following elective courses in pharmacy and pharmaceutical chemistry are recommended for those students planning a career in community or hospital pharmacy.

	Credits
PHY 407 Manufacturing Pharmacy	4
PHY 413 Pharmacy and Society	3
PHY 423 Clinical Radiopharmacy	4
††PHY 427 The Pharmacist and Dynamics of Patient Care	3
††PHY 429 Drugs and Society	3
††PHY 471 Pharmacy Seminar	2
PHY 473 Pharmacy Administration 1	4
PHY 474 Pharmacy Administration 2	5
PHY 480 Hospital Pharmacy	3
PHY 482 Body Fluids and Electrolytes	4
PHY 485 Dermatological Drug Products and Their Uses	3
PHY 487 Clinical Psychiatric Pharmacy	4
††PHY 496 Problems in Pharmacy	3
PHY 498 Injection Dosage Forms and Other Sterile Products	5
PHY 499 Non-Prescription Products	3
PHY 552 Principles of Endocrinology	5
PHY 566 Dermatological Protectives	5
PHY 653 Parenterals	5
PCY 451 Veterinary Pharmaceutical Products	3
PCY 464 Pharmaceutical Specialties	4
PCY 465 Pharmaceutical Specialties	4
††PCY 496 Problems In Pharmaceutical Chemistry	3

The courses shown below are recommended for the designated areas of specialization. The student should see his adviser for a planned program.

Industrial Pharmacy

PHY 407 Manufacturing Pharmacy	4
ISE 301 Industrial Systems Engineering	2
ISE 470 Operations Research 1	3
ISE 471 Operations Research 2	3
CY 341 Physical Chemistry	4
CY 342-343 Physical Chemistry	4
STA 320 Statistics or Equivalent	4

Research Pharmacy

MS 302-303-304 Calculus	15
CY 341-342-343 Physical Chemistry	8
or	
CY 451-452-453-454-455 Physical Chemistry	12
††PHY 496, ††PCY 496 or PLY 454 Undergraduate Research Problems	3
STA 320 Statistics or Equivalent	4

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††Grading is on a S-U basis only.

College of Physical Education, Health and Recreation

PROFESSIONAL PHYSICAL EDUCATION
HEALTH EDUCATION AND SAFETY
RECREATION
GENERAL PHYSICAL EDUCATION

College of Physical Education, Health, and Recreation

GENERAL STATEMENT

The College of Physical Education, Health, and Recreation offers undergraduates and graduate degree curricula as well as other programs of instruction and services through its four departments, namely: Professional Physical Education, Health Education and Safety, Recreation, and General Physical Education.

The requirements of the undergraduate degree curricula are organized on the basis of the Lower Division and the Upper division. Basic requirements of each curriculum available to students in the Lower Division are listed in the University College section of this catalog.

UNDERGRADUATE DEGREES

Courses of study leading to three undergraduate degrees are offered: Bachelor of Science in Physical Education, Bachelor of Science in Health Education, and Bachelor of Science in Recreation.

A student is required to complete (1) one of the curricula offered in this College; (2) all Upper Division courses with a minimum grade point average of 2.0; (3) 196 quarter hours for the four-year period with an average of 2.0 or higher; and (4) the course requirements in his major field with an average of 2.0 or higher.

In addition to completing the above requirements the student is expected to participate in extracurricular activities. Experience shows that men and women are called on to perform many and varied services in their respective schools and communities. Participation in extracurricular activites while in college contributes substantially to the success of persons entering the profession. Information concerning this expectation may be secured from the student's adviser.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Physical Education, Health, and Recreation encourage applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this college. It should be understood, however, that minimum requirements are given and that admission to this college is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objectives, pattern of courses previously completed, quality of previous academic record, and test data will all be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

University College Students: To be eligible for admission to the College of Physical Education, Health, and Recreation, a University College student must have: (1) earned at least 96 quarter hours of acceptable college credit with an overall average of "C" or higher on all college level work attempted; (2) completed as many as possible of the lower division courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the University College section of this catalog.

Transfer Students: To be eligible for admission to the College of Physical Education, Health, and Recreation, a transfer student must satisfy the minimum requirements for admission to an Upper Division College that are set forth in the ADMISSIONS Section of this catalog. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Physical Education, Health, and Recreation. The applicant should have completed the courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the University College section of this catalog or their equivalent. The following conditions will serve as a guide in expediting transfer to the College of Physical Education, Health, and Recreation in compliance with the above requirements.

A. Students attending four year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore Years for students planning to enter the College of Physical Education, Health, and Recreation.

B. Community College students should:

1. Complete the two-year college parallel program at the community college. This should include completion of:

   a) general education requirements

   b) elective courses which provide introduction to the fields of physical education, health education or recreation

   c) a course in public speaking

   d) courses, if available, which deal with the development of basic skills and provide instruction in organizing and teaching these activities

   e)skill courses in tennis, golf, swimming, gymnastics if majoring in physical education; tennis, golf, swimming if majoring in recreation; a chemistry course if majoring in health education

2. Become actively involved in extracurricular activities in order to develop competencies and to gain experience in a wide variety of activities relating to the professional field of choice.

3. Consider becoming qualified to teach or work in a second field and select elective work in the area.

4. Take 3000 (300) level courses in professional education and professional physical education, health, or recreation when enrolled at the University of Florida.

Provisional Admission: Within space limitations, students who do not meet precisely the admission requirements indicated in the appropriate section above may be granted provisional admission to the College of Physical Education, Health, and Recreation by the Committee on Admissions. The conditions of provisional admission will include specific courses to be completed and minimum grade points to be earned. Provisional status will be removed and the student fully admitted to the College of Physical Education, Health, and Recreation provided the conditions set forth in the provisional admission are fulfilled. Failure to satisfy the conditions of the provisional admission will result in denial of subsequent enrollment in the college.

COUNSELING OF STUDENTS

The College of Physical Education, Health, and Recreation maintains an undergraduate and graduate counseling office. Cumulative records are kept in the office so that any student may receive advice on such matters as (1) selection of courses, (2) participation in extracurricular activities, (3) scholastic problems, and (4) developing desirable qualities of leadership and personality. All students planning to pursue any of the curricula offered by the College of Physical Education, Health, and Recreation should avail themselves of this counseling service. Information about the counseling office can be obtained in Room 214, Florida Gymnasium.

Students are responsible for familiarizing themselves with all information concerning the appropriate degree program.

ADMISSION TO ADVANCED PROFESSIONAL SEQUENCE

Students majoring in Physical Education or Health Education are required to take specified courses in the College of Education. The catalog description of programs in the College of Education should be consulted for prerequisites for admission to the advanced professional course sequence in that college. Clearance for permission to register in these courses is administered by the undergraduate academic counselors in Physical Education and Health Education.

TEACHERS' CERTIFICATES

Certification to teach in the schools of Florida is granted by the State Department of Education under regulations established by the State Board of Education. These regulations are fully described in a bulletin issued by the State Department of Education. A copy of this bulletin is available to any student in the office of his adviser. The student is expected to familiarize himself with these requirements.

STUDENT TEACHING AND INTERNSHIP PROGRAM

Students enrolled in Physical Education, Health Education, and Recreation curricula offered in this College are required to register for the appropriate student teaching or internship program for one term during their Senior year. They will be expected to live in the community in which they serve their internship or student teaching.

RESEARCH

In order to better carry out its role in research, the College of Physical Education, Health, and Recreation conducts, coordinates, and encourages research through a research committee. This committee is ordinarily composed of faculty members actively engaged in research activities. The facilities of the research laboratory are available to faculty members as well as to graduate and undergraduate students in the College. Further information may be obtained from the Chairman, Research Committee.

GENERAL REGULATIONS

University Student Regulations: The STUDENT REGULATIONS section of this catalog contains information of essential importance to all students. The regulations cover such points as (1) degree and graduation regulations; (2) maximum and minimum loads; (3) grades and averages; (4) probation, suspension and exclusion for academic reasons; (5) withdrawals; (6) absences or unsatisfactory work; (7) classification of students; and (8) petitions and appeals.

Student Responsibility: The student must assume full responsibility for registering for the proper courses and for fulfilling all requirements for his degree. The faculty and the student's adviser will assist and counsel, but the student must take the initiative and assume responsibility for meeting all requirements.

The student's program of studies is subject to the approval of his adviser and the department chairman of the student's major field. A student majoring in Physical Education or Recreation who has skill deficiencies may be required to take courses to remove the deficiencies.

Each student is responsible for completing all courses for which he is registered. Courses may be dropped or changed without penalty only through the approval of the student's adviser.

Seniors must file formal application for degree in the Office of the Registrar no later than the deadline date published in the Calendar.

College Probation: Students who fall below a 2.0 average are placed on College Probation. If normal progress toward graduation is not accomplished, further registration in the Upper Division of this college may be denied.

Student Petitions: If a student believes that the College regulations work a peculiar hardship or injustice in his case, he may petition for waiver of the regulation involved. Information on the procedure to be followed in submitting such petitions may be secured from the student's adviser.

Uniforms: In order to participate in sports activities required in the professional program, all physical education and recreation major students will be required to purchase a prescribed uniform. Men's and women's uniforms have the emblem which designates the College of Physical Education, Health, and Recreation classification. Uniforms may be purchased from the campus bookstore. Uniform policies are subject to review and are approved by students and faculty before changes are made.

Expenditures: The student is referred to the section in this catalog under Fees for information about expenses. In addition, some courses require experience away from the campus. For such courses, the student will need to make provisions for transportation. One course PEO 2031 (PHR 220) Recreational Sports, requires payment of a nominal fee for use of bowling facilities. Students must provide their uniforms, including swimming suits, for activity courses.

GRADUATION WITH HONORS AND HIGH HONORS

Determination of eligible candidates for Honors or High Honors is the responsibility of the College Undergraduate Committee. Eligibility is based on grade point average in the Upper Division, but also requires recommendation by the college faculty.

Graduation with Honors — To graduate with Honors, a student must have earned a grade point average of 3.4 or higher for all Upper Division courses.

Graduation with High Honors — To graduate with High Honors, a student must have earned a grade point average of 3.7 or higher for all Upper Division courses.

The student must have completed at least 96 quarter hours of credit work in residence at the University of Florida, including a minimum of 80 quarter hours of letter grade courses carrying Upper Division credit, exclusive of internship and student teaching. Credit earned through correspondence or extension courses shall not be included in computing honor point averages.

GRADUATE DEGREES

Courses are offered by this College in the Graduate School leading to the degree of Master of Physical Education, the degree of Master of Arts in Physical Education, the degree of Master of Health Education, and the degree of Master of Arts in Health Education. Admission and degree requirements for graduates of accredited institutions are described in the Graduate School catalog.

CURRICULA

1. Curriculum in Physical Education for Men

Leading to the Degree of Bachelor of Science in Physical Education

This curriculum is designed to prepare students (1) to become teachers of physical education in schools and colleges; (2) to coach athletic teams; (3) to direct intramural and interscholastic athletic programs; (4) to serve in school-community recreation programs. Since many men are expected to teach more than one subject, the approved elective hours should be used to complete certification requirements in a second teaching field.

Admission: In addition to general education requirements for physical education majors specified in the University College section of this catalog, students who wish to register for this curriculum should have completed as many as possible of the following courses while registered in the lower division.

PHR 100 Men's Team Sports, 2 credits
PHR 101 Men's Soccer and Related Sports, 2 credits
PHR 126 Swimming, 3 credits
PHR 201 Football Fundamentals, 3 credits
PHR 202 Men's Basketball Fundamentals, 3 credits
PHR 203 Men's Track and Field, 2 credits
PHR 205 Wrestling and Conditioning Programs, 2 credits
PHR 207 Men's Gymnastics, 3 credits
PHR 224 Golf, 2 credits
PHR 225 Tennis, 2 credits
PHR 261 Individual and Family Health, 5 credits
PHR 266 First Aid and Medical Self-Help, 3 credits

JUNIOR YEAR

	Credits
PHR 204 Baseball	2
PHR 231 Folk and Social Dance	3
PHR 365 Applied Anatomy	4
PHR 366 Applied Physiology	4
PHR 367 Kinesiology of Motor Skills	3
PHR 371 Foundations of Physical Education	3
PHR 373 Physical Education in the Elementary School	3
PHR 375 Adapted Physical Education	2
EDF 345 Human Growth and Development	5
EDF 320 Social Foundations of Education	5
Second Teaching Field and Other Electives	19
Total	53

SENIOR YEAR

	Credits
EDE 400 The Elementary School Today	4
EDS 400 The Secondary School Today	5
PHR 368 Physiology of Exercise and Training	3
PHR 471 Administration of Physical Education and Athletics	5
PHR 473 Physical Education in the Secondary School	5
PHR 484 Measurement and Evaluation	3
Second Teaching Field and Other Electives	12
EDS 405 Student Teaching	16
Total	53

II. Curriculum in Physical Education for Women
Leading to the Degree of Bachelor of Science in Physical Education

This curriculum is designed to prepare students (1) to become teachers of physical education in schools and colleges; (2) to coach athletic teams; (3) to direct intramural and interscholastic programs; (4) to serve in school-community recreation programs. Since many women are expected to teach more than one subject, the approved elective hours should be used to complete certification requirements in a second teaching field.

Admission: In addition to general education requirements for physical education majors specified in the University College section of this catalog, students who wish to register for this curriculum should have completed as many as possible of the following courses while registered in the lower division.

PHR 111 Women's Soccer and Related Sports, 2 credits
PHR 113 Women's Track and Field, 2 credits
PHR 114 Women's Softball, 2 credits
PHR 126 Swimming, 3 credits
PHR 210 Women's Volleyball and Field Hockey, 3 credits
PHR 217 Women's Gymnastics, 3 credits
PHR 220 Recreational Sports, 3 credits
PHR 224 Golf, 2 credits
PHR 225 Tennis, 2 credits
PHR 231 Folk and Social Dance, 3 credits
PHR 232 Modern Dance, 3 credits
PHR 261 Individual and Family Health, 5 credits
PHR 266 First Aid and Medical Self-help, 3 credits

JUNIOR YEAR

	Credits
PHR 312 Women's Basketball	2
PHR 313 Officiating Women's Sports	2
PHR 332 Dance Composition	2
PHR 365 Applied Anatomy	4
PHR 366 Applied Physiology	4
PHR 367 Kinesiology of Motor Skills	3
PHR 371 Foundations of Physical Education	3
PHR 373 Physical Education in the Elementary School	3
PHR 375 Adapted Physical Education	2
EDF 345 Human Growth and Development	5
EDF 320 Social Foundations of Education	5
Second Teaching Field and Other Electives	18
Total	53

SENIOR YEAR

	Credits
EDE 400 The Elementary School Today	4
EDS 400 The Secondary School Today	5
PHR 368 Physiology of Exercise and Training	3
PHR 471 Administration of Physical Education and Athletics	5
PHR 473 Physical Education in the Secondary School	5
PHR 484 Measurement and Evaluation	3
Second Teaching Field and Other Electives	12
EDS 405 Student Teaching	16
Total	53

III. Concentration in Elementary School Physical Education (Men and Women)

This curriculum is designed to prepare specialists in Elementary School Physical Education. The program is open to both men and women.

Admission: In addition to general education requirements for physical education majors specified in the University College section of this catalog, students should have completed as many as possible of the following courses while registered in the lower division.

Men (15 hours to be chosen from the following)

	Credits
*PHR 100 Men's Team Sports	2
*PHR 101 Men's Soccer and Related Sports	2
*PHR 126 Swimming	3
*PHR 202 Men's Basketball Fundamentals	3
*PHR 203 Men's Track and Field	2
PHR 205 Wrestling and Conditioning Programs	2
PHR 207 Men's Gymnastics	3
*PHR 220 Recreational Sports	3
PHR 224 Golf	2
PHR 225 Tennis	2
PHR 231 Folk and Social Dance	3

*Courses strongly recommended

Women (14 hours to be chosen from the following)

*PHR 111 Women's Soccer and Related Sports	2
*PHR 113 Women's Track and Field	2
*PHR 114 Women's Softball	2
*PHR 126 Swimming	3
PHR 210 Women's Volleyball and Field Hockey	3
PHR 217 Women's Gymnastics	3
*PHR 220 Recreational Sports	3
PHR 224 Golf	2
PHR 225 Tennis	2
PHR 231 Folk and Social Dance	3
PHR 232 Modern Dance	3
*PHR 312 Women's Basketball	2

*Courses strongly recommended

JUNIOR YEAR

	Credits
PHR 365 Applied Anatomy	4
PHR 366 Applied Physiology	4
PHR 367 Kinesiology of Motor Skills	3
PHR 371 Foundations of Physical Education	3
PHR 375 Adapted Physical Education	2

PHR 376 Physical Education Program in the Elementary School..... 4
PHR 377 Movement Education and Gymnastics for the Elementary School Child..... 4
PHR 378 Games and Sports for Elementary School Children..... 4
EDF 345 Human Growth and Development..... 5
EDF 320 Social Foundations of Education..... 5
Electives..... 15

Total 53

SENIOR YEAR

	Credits
EDE 400 The Elementary School Today	4
EDS 400 The Secondary School Today	5
PHR 379 Dance in Elementary Education	4
PHR 368 Physiology of Exercise and Training	3
PHR 471 Administration of Physical Education and Athletics	5
PHR 473 Physical Education in the Secondary School	5
PHR 474 Field Experience in Elementary School Physical Education	3
PHR 484 Measurement and Evaluation	3
Electives	5
EDE 405 Student Teaching in the Elementary School	16
Total	53

IV. Dance Concentration

The College of Physical Education, Health, and Recreation offers an area of concentration in Dance. The following courses have been approved by the various colleges concerned for those desiring to elect a concentration of dance with supportive courses related to this area.

Suggested dance courses are:

	Credits
PL 213 Advanced Modern Dance (May be repeated for a total of 3 credits)	1
PHR 231 Folk and Social Dance	3
PHR 232 Modern Dance	3
PHR 332 Dance Composition	2
PHR 333 Dance Production (May be repeated for a total of 9 credits)	1
PHR 334 Modern Dance 3 (May be repeated for a total of 9 credits)	3
PHR 430 Seminar in Dance History and Philosophy	4
PHR 434 Modern Dance 4 (May be repeated for a total of 9 credits)	3

Additional supportive courses in Dance, Art, Theater, Music, and Philosophy of Art are:

ART 101, ART 207, THE 220, THE 323, THE 324, THE 327, MSC 210, MSC 317, MSC 318, MSC 319, and PPY 370.

V. Curriculum in Health Education

Leading to the Degree of Bachelor of Science in Health Education

This curriculum is designed to prepare students (1) to become teachers of health and related health sciences; (2) to serve as coordinators of school health education programs; (3) to serve as health educators in State and county health departments or voluntary health agencies; (4) to qualify for entrance into approved schools of public health for graduate work in health education. The broad health education curriculum provides approved elective hours to be used to complete certification requirements in additional health related areas. Specific program emphasis areas are completed in either community and/or school health education.

Admission: In addition to general education requirements for health education majors specified in the University College section of this catalog, students who wish to register for the curriculum should have completed the following courses while registered in the lower division.

PHR 261 Personal and Family Health, 4 credits
PHR 262 Community and Environmental Health, 4 credits
PHR 266 First Aid and Personal Safety, 3 credits

JUNIOR YEAR

	Credits
PHR 310 Health Education and Medical Terminology	3
PHR 359 School and Community Safety Education	3
PHR 361 Elementary School Health Program	4
PHR 365 Applied Anatomy	4
PHR 366 Applied Physiology	4
PHR 380 Public Health Field Experience	4
EDF 345 Human Growth and Development	5
EDF 320 Social Foundations of Education	5
MCY 300 Microbiology	5
Approved Electives	12
Total	49

JUNIOR YEAR

	Credits
PHR 126 Swimming	3
PHR 342 Camp Counseling	4
PHR 344 Social Recreation	3
PHR 345 Management of Recreation Centers	3
PHR 347 Recreation Programs	4
EDF 345 Human Growth and Development	5
SCA 330 Crafts	4
SCH 312 Public Speaking	4
PHR 346 Field Experience in Recreation	4
PHR 365 Applied Anatomy	5
PHR 375 Adapted Physical Education	2
PHR 445 Recreation for Special Community Groups	5
PSY 345 Psychology of Personality	4
Total	50

SENIOR YEAR

	Credits
PHR 373 Physical Education in the Elementary School	3
PHR 446 Administration of Recreation	5
MSC 366 Music in the Field of Recreation	4
PSY 421 Introduction to Applied Beh. Analysis	5
PHR 447 Recreation for Social Deviant	4
PHR 448 Program Planning	4
Electives	8
PHR 449 Internship	16
Total	49

SENIOR YEAR

	Credits
PHR 362 Health Education in Secondary Schools	4
PHR 462 Drug Education	3
PHR 463 Sex Education in the Schools and Community	3
PHR 465 Consumer Health Protection and Quackery	3
PHR 491 Community Health Education—Internship	6-16
EDE 400 The Elementary School Today	4
EDS 400 The Secondary School Today	5
EDS 403 Secondary School, Curriculum and Organization	4
EDS 464 Special Methods for Teaching Science	5
Approved Electives	6
EDS 405 Student Teaching	8-16
Total	51

(Internships vary School and/or Community Health Education)

VI. Certification in Driver Education and Safety Education

The following courses are provided for those wishing to add Driver and Safety Education to their Florida Teaching Certificate:

PHR 359 School and Community Safety Education, 3 credits
PHR 451 Driver and Traffic Safety Education, 4 credits
PHR 452 Teaching Driver and Traffic Safety Education, 4 credits

VII. Curriculum with an emphasis in Public Recreation Leading to a Degree of Bachelor of Science in Recreation

This curriculum is designed to prepare students to become leaders or directors of community recreation, industrial recreation, summer camps, playgrounds, youth or-

ganizations, outdoor recreation, or Air Force, Navy and Army recreation activities.

Admission: In addition to general education requirements for recreation majors specified in the University College section of this catalog, students who wish to register for this curriculum should have completed as many as possible of the following courses while registered in the lower division.

PHR 100 Men's Team Sports, 2 credits
or
PHR 114 Women's Softball, 2 credits
PHR 203 Men's Track and Field, 2 credits
or
PHR 113 Women's Track and Field, 2 credits
PHR 204 Baseball, 2 credits
PHR 220 Recreational Sports, 3 credits
PHR 231 Folk and Social Dance, 3 credits
PHR 245 Leadership in Recreation, 4 credits
PHR 266 First Aid, 3 credits

JUNIOR YEAR

	Credits
EDF 345 Human Growth and Development	5
PHR 224 Golf	2
PHR 344 Social Recreation	3
PHR 340 Outdoor Recreation	3
PHR 225 Tennis	2
PHR 346 Field Experience in Recreation	4
PHR 342 Camp Counseling	4
SY 202, 311, or 350	4
PHR 126 Swimming	3
PHR 345 Management of Recreation Centers	4
PHR 347 Recreation Programs	4
PHR 373 Physical Education in the Elementary School	3
Electives	9
Total	50

SENIOR YEAR

	Credits
PHR 445 Recreation for Special Community Groups	5
PHR 446 Administration of Recreation	5
EH 303 Business Communication (or PR 414)	4
MSC 366 Music	4
SCA 330 Crafts	4
ES 201 Basic Economics-I	5
Electives	7
PHR 449 Internship	16
Total	50

#Two team activities, two individual activities, as part of four or more courses required with a minimum of eight hours. (All PHR courses)

VIII. Curriculum with an emphasis in Therapeutic Recreation Leading to a Degree of Bachelor of Science in Recreation.

This curriculum is designed to prepare students to become leaders or directors of hospital recreation, recreation for the aged, recreation for deviant persons, and for other exceptional groups.

Admission: To register for this curriculum students must have completed the requirements as listed under University College for the freshman and sophomore year in this curriculum.

PHYSICAL EDUCATION, HEALTH, AND RECREATION

University College students expecting to earn a degree in the College of Physical Education, Health, and Recreation should pursue one of the following programs:

A. For Men intending to major in Physical Education

Freshman Year	Credits
SSC American Institutions	6
PCL 220 Amer. State and Local Govt. or PCL 201 Amer. Federal Govt	3-5
EH English	9
CPS The Physical Sciences	7
PHR 100 Men's Team Sports	2
PHR 101 Men's Soccer and Related Sports	2
PHR 126 Swimming	3
PHR 207 Men's Gymnastics	3
PHR 224 Golf	2
PHR 261 Individual and Family Health	5
Physical Education	3
Total	45-47

Sophomore Year	Credits
BES 211 or 221 Behavioral Studies	3
CMS 111 Fundamental Mathematics	4
CPS	3
HUM The Humanities	12
CBS Biological Sciences	9
PHR 201 Football Fundamentals	3
PHR 202 Men's Basketball Fundamentals	3
PHR 203 Men's Track and Field	2
PHR 205 Wrestling and Conditioning Programs	2
PHR 225 Tennis	2
PHR 266 First Aid and Medical Self-Help	3
SCH 312 Public Speaking (4) or SCH 201 Introduction to Speech Communication (5)	4-5
Total	50-51

B. For Women intending to major in Physical Education

Freshman Year	Credits
SSC American Institutions	6
PCL 220 Amer. State and Local Govt. or PCL 201 Amer. Federal Govt	3-5
EH English	9
CPS The Physical Sciences	7
PHR 111 Women's Soccer and Related Sports	2
PHR 113 Women's Track and Field	2
PHR 114 Women's Softball	2
PHR 126 Swimming	3
PHR 231 Folk and Social Dance	3
PHR 261 Individual and Family Health	5
PHR 266 First Aid and Medical Self-Help	3
Total	45-47

Sophomore Year	Credits
BES 211 or 221 Behavioral Studies	3
CMS 111 Fundamental Mathematics	4
CPS	3
HUM The Humanities	12
CBS Biological Sciences	9
PHR 210 Women's Volleyball and Field Hockey	3
PHR 217 Women's Gymnastics	3
PHR 220 Recreational Sports	3
PHR 224 Golf	2
PHR 225 Tennis	2
PHR 232 Modern Dance	3
SCH 312 Public Speaking (4) or SCH 201 Introduction to Speech Communication (5)	4-5
Total	51-52

C. For men and women intending to major in Health Education

Freshman Year	Credits
SSC American Institutions	6
EH English	9
MS 102 Algebra and Trigonometry (or CMS 111)	4-5
CPS The Physical Sciences	4
BTY 181 Introductory Botany 1 (or CBS-9)	5-9
PHR 261 Personal and Family Health	4
Physical Education	3
Approved Electives	7
Total	42-48

Sophomore Year	Credits
HUM The Humanities	12
CY 101 Chemistry and Society	4
ZY 201 Introductory Zoology Laboratory	4

SCH 201 Introduction to Speech Communication..... 5
SY 201 Principles of Sociology..... 4
PSY 201 General Psychology..... 4
GY 109 Exploring the Geological Sciences..... 4
PHR 262 Community and Environmental Health..... 4
PHR 266 First Aid and Personal Safety..... 3
Approved Electives..... 4

Total 48

D. For men and women intending to major in Recreation with an emphasis in Public Recreation.

Freshman Year	*Credits*
SSC American Institutions	9
EH English Composition	9
EH 201 Use of Books and Library	2
PCL 220 American State & Local Government	3
SCH 312 Public Speaking	4
CPS The Physical Sciences	7
PHR 204 Baseball (for Men) or PHR 114 Women's Softball	2
PHR 203 Men's Track and Field or PHR 113 Women's Track and Field	2
PHR 220 Recreational Sports	3
PHR 266 First Aid	3
Physical Education	3
Total	47

Sophomore Year	*Credits*
BES 111 Behavioral Studies	3
BES 121 or CPS Physical Science	3
HUM The Humanities	12
CBS Biological Sciences	9
CMS Fundamental Mathematics	4
PHR 100 Team Sports Men or PHR 312 Basketball Women	2 or 3
PHR 245 Leadership in Recreation	4
PHR 231 Folk and Social Dance	3
PSY 201 General Psychology	4
SY 201 Principles of Sociology	4
Total	48-49

E. For Men and women intending to major in recreation with an emphasis in Therapeutic Recreation

Freshman Year	*Credits*
SSC American Institutions	10
EH English	9
CPS The Physical Sciences	7
PHR 220 Recreational Sports	3
PHR 244 Introduction to Recreation	3
PHR 266 First Aid	3
PSY 201 (BES 111)	4
Electives	5
Physical Education	3
Total	47

Sophomore Year	*Credits*
HUM The Humanities	12
CBS Biological Sciences	10
CMS Fundamental Mathematics	4
BES 121 (PSY 340)	5
PHR 231 Folk and Social Dance	3
PHR 245 Leadership in Recreation	4
PHR 261 Individual and Family Health	5
Electives	6
Total	49

THE DEPARTMENT OF GENERAL PHYSICAL EDUCATION

THE UNIVERSITY REQUIREMENT

Students are required by the University to register and participate satisfactorily in a three quarter sequence of physical education and one credit hour each quarter in the lower division. This program involves a sequential approach of three courses designed to provide for: a better understanding of physical health and its relation to total health, the beginning of a developmental fitness program, and competencies related to the role of recreation and leisure in contemporary society. Students may elect to take these courses under the satisfactory-unsatisfactory option.

First Quarter
Basic Concepts of Physical Education

During the first quarter a student shall engage in a program of lecture-discussion, testing and evaluation. The purpose of this program is to develop a conceptual understanding of physical health and its relation to total health. The program will be directed toward helping the individual understand physical education and the personal meaning it should hold for each person. Testing is included to help the individual evaluate his or her physical self. Those failing the swimming test will be urged to enroll in a swimming class.

Second Quarter
The Fitness Program

In the second quarter of the program the student will be encouraged to participate in an activity designed to develop fitness. Students will be advised to participate in those activities which can best meet their own individual needs.

Third Quarter
The Recreational Sports Program

In the third quarter the student will be given the opportunity to elect an activity related to personal interests so that specific competencies for recreational use may be developed.

The Adapted Program

Students with physical limitations or deviations who are designated by the Department of Student Health, will be assigned to an activity commensurate with their physical limitations.

The Elective Program

Students who have completed the University requirement are eligible to participate in the elective program. These courses are available as approved by the appropriate Dean or his representative. Students may elect to take any course in physical education under the satisfactory-unsatisfactory option.

The Aquatic Specialist Program

Because of the demonstrated need for aquatic specialists in Florida, the Department of General Physical Education has inaugurated an Aquatic Specialist Program. All students who successfully complete the competencies listed below will be issued an Aquatic Specialist certificate and card from the Department of General Physical Education. The program is competency based and proof of competency may be substituted in lieu of academic credit.

Course	*Credit*
PL 263 Advanced Life Saving (ARC)	1
*PL 264 Water Safety Instructor (ARC)	2
*PL 305 Aquatic Facilities Management	4
*PHR 266 First Aid (ARC Standard)	3
(Three courses required)	
PL 162 Canoeing	1
PL 254 Sailing	2
PL 163 Skin and Scuba Diving	3
PL 262 Synchronized Swimming	1
PL 167 Springboard Diving	1
PL 270 Handicapped Swimming Instruction	2
(One course required)	
*PHR 326 Coaching Swimming and Diving	2
*PHR 226 Synchronized Swimming	2
Total Credit Hours	15-18

*Required Courses

College of Veterinary Medicine

The College of Veterinary Medicine, newest of six colleges which constitute the J. Hillis Miller Health Center, was authorized by the Florida Legislature in 1965. In 1971, following the appointment of a Dean, an active planning program for the college was initiated in cooperation with an existing university committee. Construction of the Veterinary Medical Teaching Hospital commenced in the Spring of 1975 and of the Basic Sciences Building in December, 1975; completion dates for both buildings is Summer, 1977. Forty students were admitted to the first entering class (Fall, 1976) because of limitations of laboratory and instructional space. An entering class size of 80 students will be reached when permanent facilities are available in the Fall, 1977.

THE PROFESSIONAL COLLEGE

Florida's College of Veterinary Medicine is concerned with the total health of all members of the animal kingdom, including man. Today's society expects the modern veterinarian to serve the needs of the public in a variety of significant ways. A few examples are: the practice of preventive medicine in relation to both human and animal health, solution of agricultural and wildlife problems, humane care of companion animals, research on diseases of animals, provision of wholesome food, etc. Therefore, the College of Veterinary Medicine offers unlimited opportunity for young men and women interested in medicine and the well being of animals.

GOALS

Basic goals of the new college are:

1. To educate the veterinarian trained for specific needs of Florida. Elective educational tracks will include: comparative medicine, food animal medicine, epidemiology and public health, laboratory animal medicine, aquatic medicine, environmental medicine, equine medicine, urban medicine, and general veterinary practice.

2. To perform research on the devastating subtropical animal diseases that must be controlled in order to provide wholesome food for our nation and the developing countries.

3. To provide a biomedical investigational resource of animal disease models with human counterparts. This referral center will include both metabolic and infectious diseases.

4. To provide a Veterinary Medical Center necessary for the training of interns, residents and graduate students, and for continuing education of practitioners.

5. To provide an active referral and extension program designed for the veterinary medical profession, state and federal agricultural and public health agencies, and consumers of food and health services.

MEANS TO THE GOALS

The design of the new college curriculum identifies the expanding horizons of the ever increasing domain of veterinary medicine. The curriculum provides for a 12 quarter program consisting of a core curriculum and an elective track. The core will provide the body of knowledge and the skills that are common to all veterinarians. It will encompass the first 10 quarters and although the first 8 quarters will relate primarily to the basic medical sciences, students will be introduced to physical diagnosis, radiology, and clinical problems as early as the first quarter of the first year. The core will also include experience in each of the clinical areas (clerkships) as well as provide a sound foundation in the basic sciences.

The elective tracks will permit the student to study in depth those aspects of both basic and clinical veterinary medical science which are most relevant to the individual's interests and needs. The elective track would ordinarily cover the last 2 quarters of the curriculum; however, curricular flexibility will permit students to complete portions of elective tracks (as well as core clerkships) during summer quarters, thereby allowing the highly-motivated student to complete requirements for the D.V.M. degree in less than 4 calendar years.

Three phases of study within the veterinary medical curriculum are conceptually based on the study of the normal animal (Phase 1), the study of disease processes and therapy (Phase 2), and clinical applications (Phase 3). Phase 1 and Phase 2 are organized on an organ system basis, each system is considered in turn, an approach that lends itself to the concept of comparative medicine. Phase 1 occupies the first 3 quarters of the curriculum while Phase 2 extends into the third quarter of the third year. After 8 quarters of study, the student will enter rotations through the clinical clerkships. The clinical experience consists of required or core clerkships and elective tracks or elective courses.

PRE-PROFESSIONAL COURSE REQUIREMENTS

All applicants to the professional curriculum must present a minimum of 120 quarter hours (80 semester hours) of college-level course work, exclusive of courses in physical education and military training. Credit for the College-Level examination Program (CLEP) is acceptable at the level prescribed by the University of Florida. (Pre-Veterinary students should seek appropriate pre-professional advisement at their respective accredited institutions.)

a. Biology - a minimum of 18 quarter credits including Animal Biology or Zoology (lecture and laboratory); Genetics; and Microbiology (lecture and laboratory).

b. Chemistry - a minimum of 27 quarter credits including Inorganic Chemistry (general and qualitative), lecture and laboratory; Organic Chemistry, lecture and laboratory; and Quantitative Analysis.

c. Physics - a minimum of 10 quarter credits, lecture and laboratory.

d. Mathematics - a minimum of 5 quarter credits of Calculus.

e. Animal Science - a minimum of 10 quarter credits, including Introduction to Animal Science and Feeds and Feeding.

f. Humanities - a minimum of 9 quarter credits.

g. Social Science - a minimum of 9 quarter credits.

h. English - a minimum of 9 quarter credits, including one course in English Composition.

i. Electives - a minimum of 23 quarter credits.

Minor variations in quarter credits will be accepted. The applicant must complete these courses by the end of the Spring quarter in the year of application. The College of Veterinary Medicine reserves the right to waive any of these requirements in exceptional cases. The Graduate Record Examination's Aptitude Test (GRE) will be required of all applicants.

BASIS FOR SELECTION

Selection for the College of Veterinary Medicine will be made by the Dean based on recommendation of the Faculty Committee on Admissions using the following criteria as the basis for selection.

1) Residency - Florida residents or residents of an SREB compact state with a quota contract for Veterinary Medical Education at the University of Florida.

2) Academic Performance - Evidence of superior scholastic achievement.

3) GRE Scores - Graduate Record Examinations Aptitude Test.

4) Background and Experience - Knowledge of the veterinary medical profession. Some type of animal care experience is considered desirable.

5) Letters of Reference - Evaluation of character and potential of applicant as a future Veterinarian.

6) Extra - curricular Activities of Applicant - Achievements, leadership ability, and participation in community activities.

7) Communicative Skill - A brief statement from applicant concerning reasons for seeking admission to the College of Veterinary Medicine.

8) Personal Interview.

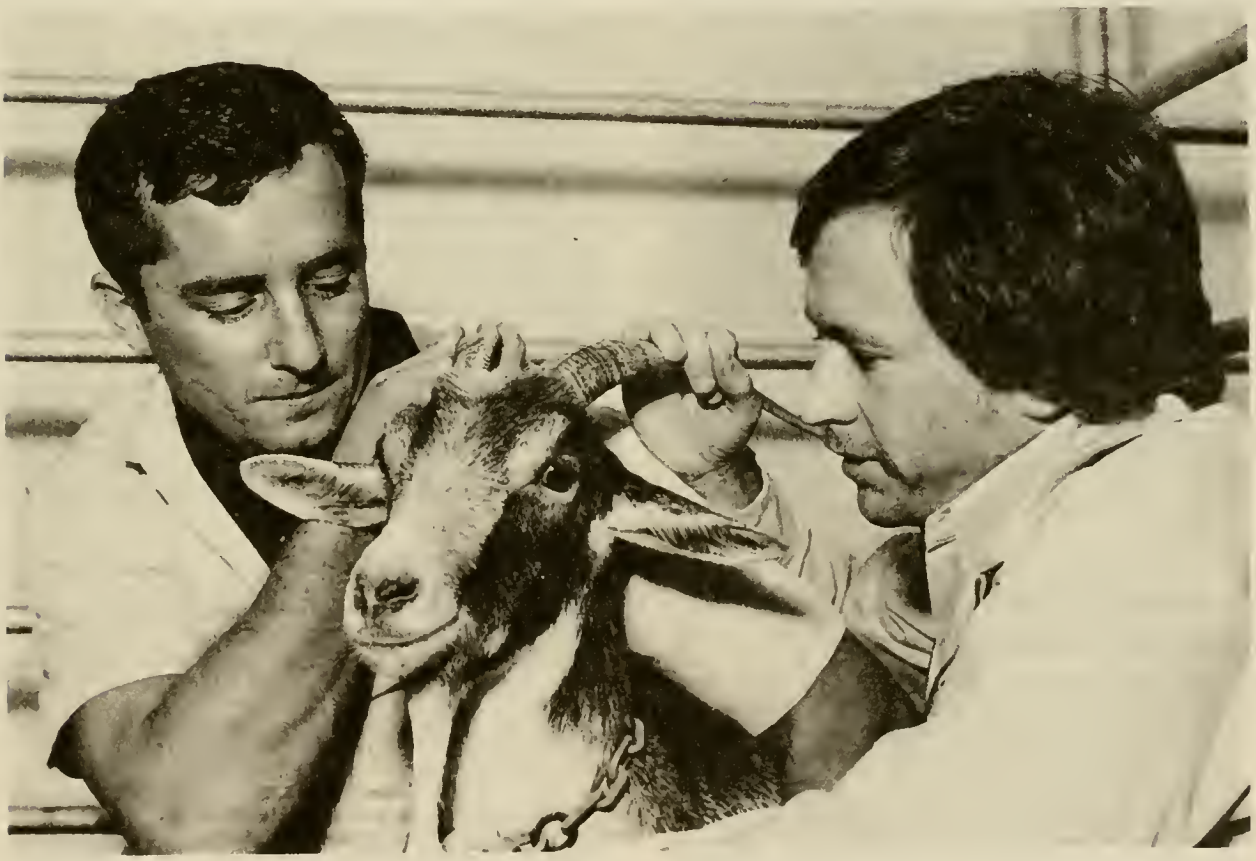
9) Health Status.

APPLICANT INFORMATION

Applicants will be limited to residents of Florida and certain Southern Regional Education Board (SREB) compact states. Pre-veterinary requirements may be completed at any accredited 2 or 4-year college or university offering courses of content similar to those described in the University Record of the University of Florida, Gainesville. This study plan is designed to provide the educational basis that future veterinarians must have to satisfactorily meet the demands of the professional curriculum.

Admission to the College of Veterinary Medicine will be granted only for the fall quarter of each school year and only on a full-time basis. A prescribed number of student spaces is planned for each class, and a formal application with supporting credentials will be required for each student. The Faculty Committee on Admissions will be responsible for evaluating applications and recommending to the Dean the candidates for the entering class in the professional curriculum. All pre-professional requirements must be completed by the end of the spring quarter of the academic year in which application is made. Students reapplying must submit a new application for each application period. It will be the policy of the College not to admit students who have been dismissed by other schools of veterinary medicine.

Further detailed information may be obtained from the Office of the Dean for Student Affairs, College of Veterinary Medicine, University of Florida, Gainesville, 32610.



Division of Military Science

The University of Florida offers instruction in the Military Sciences as an integral part of its curriculum. The Departments of the Army, Navy, and Air Force each maintain a Reserve Officers Training Corps (ROTC) and provide staffs of military personnel for the instruction and administration of cadets and midshipmen.

ARMY BASIC COURSE, NAVY BASIC COURSE, AND AIR FORCE GENERAL MILITARY EDUCATION PROGRAM

The Army and Navy Basic Courses and the Air Force General Military Course include six quarters of instruction. Non-U.S. citizens must receive departmental approval before enrollment.

Army and Air Force cadets are issued uniforms and textbooks by the University and are held financially responsible for the care of such property and for its prompt return upon proper call.

Navy students are issued uniforms and textbooks by the Navy and are also held financially responsible for the care of such property and for its prompt return when directed.

STATUS OF STUDENTS WHO HAVE HAD MILITARY TRAINING AT OTHER SCHOOLS

Students transferring from other college level institutions with ROTC units are allowed credit for military studies completed at such institutions, up to the amount allowed by the institution from which the transfer is made, provided such credit does not exceed six quarter hours for the Army or Navy Basic Course or the Air Force General Military Course. A cadet who transfers to another institution where an ROTC detachment of the same service is located may transfer his membership in the Army or Navy Advanced Course or the Air Force Professional Officer Course to that detachment. The eligibility for admission of such students to Military Science, Naval Science, and Aerospace Studies courses at the University of Florida is determined by the Professor of Military Science, Professor of Naval Science, or the Professor of Aerospace Studies as appropriate.

MILITARY COMMITMENT UPON COURSE COMPLETION

Non-Scholarship students enrolled in Army, Air Force, or Navy ROTC incur *no* military commitment during their first two years (Basic Course) in the program. Upon selection by the respective departments, students completing the basic course or its equivalent may enter the Advanced Course (junior/senior ROTC). Such students execute a contract at time of entry which obligates them upon successful completion of the Advanced Course and commissioning to serve on active duty for a period of not less than three years for Army, three years for Navy, and four years for Air Force, subject to orders of the appropriate service secretary and to continue as a member of a Regular or Reserve component of that service until, at the earliest the sixth, and not later than the eighth anniversary of the receipt of commission. ROTC Scholarship students incur an identical military commitment except they must serve four years on active duty.

ROTC SCHOLARSHIP PROGRAM

The ROTC Vitalization Act of 1964 provides for College Scholarships to ROTC cadets and midshipmen. Those receiving scholarships are selected on a competitive basis. The scholarships pay the cost of tuition, books, fees, supplies and equipment, plus a monthly subsistence allowance of $100. Scholarships are offered for one, two, three, and four years.

UNIFORMS

The ROTC uniforms are identical to the regulation uniform except for insignia. Cadets and midshipmen are required to wear the uniform during drill periods.

Newly entering students in the Army and Air Force ROTC are issued required uniforms and texts from supply. The uniforms and texts remain the property of the ROTC and are returned to supply during quarters of nonattendance, transfer to another institution, or upon completion of the General Military (Basic) Course.

A cadet entering the Professional Officer (Advanced) Course is issued a new regulation uniform which he retains when he receives his commission.

Navy uniforms are issued to midshipmen in two ways: Some uniforms are permanent issue so long as satisfactory NROTC participation is carried out; other uniforms are issued especially for special events such as Summer cruises and must be returned.

ARMY ADVANCED COURSE

The general objective of the course of instruction is to provide junior officers who by their education, training, and inherent qualities are suitable for continued development as officers in the United States Army. The aim is to provide a basic military education, and, in conjunction with other college disciplines, to develop individual character and attributes essential to an officer.

The Army Advanced Course includes six quarters of instruction at the University and six weeks Summer camp at a military installation, which normally is attended by the student at the end of his first year's Advanced Course work. Each student applicant for the Advanced Course must have completed the Army ROTC Basic Course, attended a basic ROTC Summer camp of six weeks in lieu thereof, or have had previous military training acceptable as a substitute therefor. Cadets who have successfully completed three years of Junior ROTC may be granted a waiver of the Basic Course upon approval of the PMS. Final selection of students for the Advanced Course is made by the President of the University and the Professor of Military Science.

Students are issued regulation Army uniforms and textbooks. When a student receives his degree and commission, he retains all Advanced Course uniforms issued to him by the University. Each student receives from the United States Government a monetary subsistence allowance, presently $100.00 per month, which is paid monthly during the period of enrollment in the Advanced Course for not more than a total of 20 months. Students are paid travel to and from the six-weeks Summer camp; while at camp they are provided quarters, rations and one-half of a second lieutenant's pay per month. All students take the General Military Science course. Upon the student's successful completion of the Advanced Course and graduation, the student is commissioned a second lieutenant in the United States Army Reserve in a branch of the Army as determined by a consideration of his choice, his academic major, his aptitude and the needs of the Army.

Outstanding Advanced Course students are designated "Distinguished Military Students" and upon graduation from the University are designated "Distinguished Military Graduates." A Distinguished Military Student may apply for appointment as second lieutenant in the Regular Army

at any time prior to his designation as "Distinguished Military Graduate." A number of University of Florida graduates accept Regular Army appointments each year.

NAVAL RESERVE OFFICERS TRAINING CORPS

The NROTC Unit was established at the University of Florida in 1972 to provide a source from which qualified officers could be obtained for the Navy and Marine Corps. Depending upon which part of the program students are affiliated with, they are tendered commissions in either the Regular Navy, the Naval Reserve, the Marine Corps or the Marine Corps Reserve, the latter two being at the student's option.

The program consists of a Naval Science Course and a no-credit two-hour leadership laboratory each quarter for four academic years. Shipboard engineering systems, seapower and maritime symposia, terrestrial and celestial navigation, and management and leadership are included in the curriculum. Training cruises, usually of six weeks duration with pay during the summer, are also part of the program.

Students may participate with or without a scholarship. Those who have scholarships have their tuition, books, fees, and some other expenses paid by the Navy. They also receive $100 per month for a maximum of 40 months, during the academic years. Non-scholarship students, or College Program students, do not receive these emoluments. However, they do receive Naval Science textbooks and uniforms free and, in the Junior and Senior years, receive $100 per month during the academic year (up to 20 months.) Scholarships are usually awarded after national competition among high school Seniors. However, College Program students can be awarded scholarships for a period of less than four years and they actually have an advantage over high school students. Scholarship students participate in three Summer cruises; the College Program students become involved in only one cruise, between their Junior and Senior years. There are also Two-Year Scholarship Programs and a Two-Year College Program available. Application to enter these programs should be made by Spring Quarter of the sophomore year; or if in a five-year curriculum, by Spring Quarter of the Junior year.

Navy option graduates of the NROTC program will generally receive advanced training in one of the following areas: Nuclear Propulsion, Naval Aviation, or Surface Warfare. Marine Corps option graduates receive a six-month professional course before further assignment. The program also provides for a limited number of graduates to enter the Civil Engineering, Supply, Medical, or Dental Corps.

During the first two years of the program, there are no obligations. However, with commencement of the Junior year students are obligated to serve on active duty after completing the program and receiving their baccalaureate degree. For scholarship students the obligation is four years, unless, of course, special programs are undertaken.

AIR FORCE OFFICER TRAINING CORPS

The Department of Air Force Aerospace Studies was established to select and prepare students, through a permanent program of Instruction, to serve as officers in the Regular and Reserve components of the United States Air Force. The curriculum emphasizes the uniformly high level of military understanding and knowledge required of all Air Force officers.

AFROTC training is divided into two phases: The first two years constitute the General Military Course; the last two the Professional Officer Course. The Department offers a four-year and a two-year program. Each of these options leads to a commission in the Air Force. The four-year program requires completion of both the General Military Course and Professional Officer Course. Students with prior active military service or previous training at Military schools may, on the basis of their experience, receive a waiver for portions of the General Military Course. The two-year program requires, as a substitute for the General Military course, completion of a six-week Field Training Course at an Air Force Base prior to formal enrollment in the Professional Officer Course. Junior College and other non-ROTC college transfer students with no previous ROTC training, who qualify academically, are eligible for the two-year program.

AFROTC training is offered to both men and women students. Application for post-commissioning flying training is limited to men only.

GENERAL MILITARY COURSE

The General Military Course (GMC), a two-year course, examines the role of U.S. military forces in the contemporary world, with particular attention to the United States Air Force, its organization and mission. The functions of strategic offensive and defensive forces, general purpose, and aerospace support forces are covered. The development of airpower over the last sixty years is examined by tracing the various concepts of employment of airpower and by focusing on factors which prompted research and technological change. A variety of events and elements in the history of air-power are stressed, especially where these provide significant examples of the impact of airpower on strategic thought.

THE PROFESSIONAL OFFICER COURSE

Enrollment in the Professional Officer Course (POC) is open to applicants who demonstrate a high officer potential. Applicant must: (1) be able to fulfill all requirements for a commission prior to his 30th (26½ years if flying applicant) birthday; (2) have two years of academic enrollment remaining in order to obtain a degree; (3) sign a written contract agreeing to complete the course; (4) be a citizen of the United States; (5) pass the Air Force Officers' Qualification Test; (6) pass the Officer physical examination; (7) terminate membership (if member) of any reserve component, enlist in Air Force Reserve (Obligated Reserve Section); and (8) have an academic average of 2.0 or above. Veterans entering the University who desire a commission through AFROTC should contact the Professor of Aerospace Studies prior to registration.

All Professional Officer Course cadets receive subsistence amounting to $100.00 per month for up to 20 months. This is in addition to the pay received for the four-week Field Training which is normally accomplished between the Sophomore and Junior year. Field Training pay is 50 percent of the basic pay of a Second Lieutenant. Cadets also receive compensation for travel expenses and are furnished food, housing, uniforms, and medical care while attending Field Training, which is conducted at regularly established Air Force Bases. When the student successfully completes the Professional Officer Course and graduates from the University, he is commissioned a second lieutenant in the United States Air Force Reserve. Normally he will be called to active duty and given an assignment commensurate with his academic major, the needs of the Air Force and his personal desires. The active duty requirement for those who enter and satisfactorily complete pilot or navigator training is six years from initial call to active duty. For others, the requirement is four years after initial call to active duty.

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The quarter[s] in which undergraduate courses will be taught is [are] indicated by the following codes: F-Fall, W-Winter, S-Spring, SS-Summer. The absence of a code for an undergraduate course indicates the course will be taught upon sufficient demand or as faculty become available.

STATEWIDE COURSE NUMBERING SYSTEM

Public post secondary institutions in Florida are required to implement a common course numbering system that has been developed at the state level. The objective is to provide a common classification system for all disciplinary and interdisciplinary categories and sub-categories based on the professional judgement of the faculties in the given discipline areas.

The course offerings described below are identified by the statewide course numbering system and, parenthetically, by the University of Florida designations. The statewide course number includes a three-letter prefix, a four-digit number, and a one-letter suffix for laboratory courses. The three letters identify the general subject matter. The first digit indicates the course level. The next three digits were assigned by the faculty in the appropriate discipline according to the common course numbering procedures. The suffix of "L" means that the course is a laboratory course. The suffix of "C" means that the course has both class and laboratory elements. Courses without labs have no suffix. A blank space indicates that the statewide course number had not been determined at the time of catalog printing.

The University of Florida will accept for full credit all transfer courses that have a common prefix and number as soon as the common numbers become available.

BEHAVIORAL STUDIES

INSTRUCTIONAL STAFF 1976-77

Bell-Nathaniel, A.M., Acting Chairperson; Bock, E.H.; Christian, M.B.; Davis, B.H.; Fregly, M.S.; Grater, H.A; Haines, L.F.; Hansen, A.; Morgan, J.I.; Parker, M; Pitts, J.H.; Resnick, J.L.; Schmidt, P.L.; Schwartz, J.M.; Sciadini, F.; Skovholt, T.M.; Spring, A.; Standley, G.B.; Sullivan, E.S.; Wolfson, M.

The Department of Behavioral Studies develops and offers interdisciplinary courses primarily of topical nature designed to introduce students to principles from the behavioral sciences and to help them develop skills in applying this knowledge in understanding topics of contemporary significance. The Department seeks to 1) introduce students to fundamental issues in the area of human behavior and develop an awareness of the issues' complexity. 2) Develop interest in and an appreciation of the potential of the behavioral sciences as disciplines making significant contributions which foster individual and social development, and in resolving individual and social conflicts. 3) Foster an open, questioning attitude towards their own and others' beliefs and behaviors. 4) Promote the development of analytic abilities and encourages their use in obtaining and evaluating information and reaching decisions based on such an approach.

(BES 202) The African Experience — An Introduction to African Studies. F, W, S.
Credits: 4; (Ident. with A5C 202).
An introductory interdisciplinary study of African society and culture that examines the richness, diversity, and time-depth of African civilizations.

(BES 211) Creative and Critical Thinking, F, W, S, SS.
Credits: 3
Procedures of inquiry. Inductive reasoning: hypotheses, generalizations and causal theories, together with the influences of human needs, defense mechanisms, emotion, bias and the personal point of view on these procedures.

(BES 221) Decision Making. F, W, S, SS.
Credits: 3
Decision making. Principles of deductive reasoning, with special attention to decisions involving value premises. Common fallacies in reasoning and devices of persuasion.

(BES 251) Behavioral Studies: Special Topics. F, W, S, SS.
Credits: 4
Courses designed to develop an understanding of how principles from the behavioral sciences can be used to describe, evaluate and explain selected topics of significance in contemporary society. Students will be introduced to principles from Sociology, Psychology, Anthropology, Speech, etc. May be repeated with change of topic. Up to a maximum of 8 credits.

(BES 252) Human Sexuality and Society. F, W, S, SS.
Credits: 4
An investigation of the role of sex in contemporary society including sex roles, sex in the media, and sexual ethics. Past myths, misconceptions and customs will be reviewed along with present data from on-going research.

(BES 253) Power and Violence. F, W, S, SS.
Credits: 4
Utilizing perspectives from a range of academic fields (Sociology, Psychology, History, Literature) the course will examine questions concerning the biological, psychological, social and cultural causes of violence with a focus on the American scene. A lecture series including outside speakers, movies, documentaries, and/or field trips is planned to provide different perspectives on the issues of power and violence and to aid students gain insights into their social surroundings and personal experiences.

(BES 254) Simulated Society. F, S.
Credits: 4
The course attempts, through the development of a contrived political, social economic and behavioral community to provide students with a perspective for understanding the causes of social problems and conflict, and an appreciation of the factors and forces which are involved in reducing these problems.

(BES 259) Cybernetics and Society. F, W, S, SS.
Credits: 4
The effects of technology on our political, economic, and social institutions. Particular emphasis is placed on value changes and effects on human behavior created by the mass introduction of computers and scientific advances. The student develops understanding of cybernetics as a means of controlling entropy. Guest lecturers provide insights into problems and benefits of current technology. Three discussion sessions per week are based on outside readings and textbook.

(BES 291-F; 292-W, 293-S) Behavioral Studies: College Honors.
Credits: 4 each
Content consistent with the goals of BES 211-221, structured for the abilities of students in the College Honors program.

THE BIOLOGICAL SCIENCES
University College

INSTRUCTIONAL STAFF 1976-77

Payne, W.W., Director, Division of Biological Sciences; Drummond, B.A., Course Coordinator; Staff from Departments of Botany, Zoology, and Entomology.

The program in Biological Sciences forms an integral part of the student's total experience in general education. An appreciation of the principles governing the living world is a necessary part of the background of any educated person. The three quarters of CBS 211-221-231, will satisfy the general education requirements for admission to or graduation from other colleges in the University. Students normally take the CBS courses in the above sequence but may restructure where necessary.

BSC 1999 (CBS 101) Elementry Biology
Credits: Maximum of 4.5
Credit by CLEP only. This credit represents attainment of only that minimum knowledge of the subject designated by passing level mandated by state interinstitutional agreement. It is available to those not wishing to avail themselves of the usual University of Florida general education course work in the subject. Students who obtain CLEP credit must do so before enrolling in the University of Florida general education course work in the subject.

APB 2150 (CBS 211) The Biological Sciences — Genetics and Evolution. F, W, S, SS.
Credits: 3
Probably the most far-reaching biological concept is that of evolution. Mechanisms directing the evolution of organisms are studied in depth, with particular attention being given to heredity. Emphasis is on genetics and the evolution of mankind.

APB 2151 (CBS 221) The Biological Sciences-Ecology and Behavior. F, W, S, SS.
Credits: 3
This course stresses the principles of ecology, the study of relationships of organisms to their environments, and examines the biological basis of behavior. Particular emphasis is placed on the impact of man's activities on our environment.

APB 2153 (CBS 231) The Biological Sciences-Cell and Organism Biology. F, W, S, SS.
Credits: 3
The relationship between structure and function is explored at the cellular and organismal level. Modern concepts of physiology are stressed and emphasis is placed on the function of the human body.

BSC 2930 (CBS 251) The Biological Sciences: Special Topics. S.
Credits: 4; Prereq: One Quarter of CBS or equivalent.
Topics and problems for individual and small group investigation; techniques of research, documentation, reports, critiques. Particularly relevant topics may form the nucleus for concentration during any one quarter and the subject may change with change of instructor or quarter. Admission is by permission of the coordinator.

APB 2150 L (CBS 264) Laboratory in Biological Sciences. F, W, S.
Credits: 1; Coreq. or prereq: any quarter of CBS or its equivalent.
A laboratory designed to acquaint the student with selected biological principles. It is available to those students who wish to gain experience in a non-professionally oriented laboratory, or for those needing laboratory experience to satisfy requirements for graduation.

APB 2991-2992-2993 (CBS 291-F; 292-W; 293-S) The Biological Sciences: College Honors.
Credits: 3 each
Content consistent with the goals of CBS 211-221-231 and structured to the abilities of qualified students.

ENGLISH
University College

INSTRUCTIONAL STAFF 1976-77

Hellstrom, W., Chairman; Anderson, B.J.;

Beirne, R.M.; Beyette, T.K.; Bigelow, G.E.; Bloodworth, B.E.; Bradshaw, J.P .; Brantley, R.E.; Bredahl, A.C.; Byron, K.H.; Carnell, C.S.; Cech, J.; Childers, W.C.; Clark, I.G.; Cranney, A.G.; Crews, H.E.; Deakin, M.F.; Duckworth, A.M.; Foreman, F.C.; Frazer, W.L.; Fry, N.J.; Gale, S.H.; Gehan, F.E.; Gordon, A.M.; Green, R.H.; Herbert, T.W.; Hetrick, L.A.; Hill, M.A.; Hodges, J.R.; Holden, E.S.; Homan, S.R.; Kelly, D.L.; Kendall, K.E.; Kershner, R.B.; Kirkpatrick, M.S.; Lambert, R.E.; Langford, A.G.; Larsen, J.S.; Lisca, P.; Long, S.G.; Losano, W.A.; McCarthy, K.M.; McCrea, B.R.; Mooney, M.E.; Moss, H.G.; Murphree, A.A.; Neale, J.R.; Nelson, M.D.; New, M.; Nims, J.F.; Penrod, J.A.; Perlette, J.M.; Pickard, J.B.; Robinson, W.R.; Sciadini, F.; Shaw, H.B.; Snodgrass, S.G.; Snyder, W.S.; Straus, B.R.; Taylor, F.; Thompson, I.S.; Thompson, R.M.; Thomson, R.S.; Tilman, C.A.; Twitchell, J.B.; Ulmer, G.L.; Vogel, J.F.; Waldo, T.R.; Watson, V.S.; Wear, R.A.; Williams, A.L.; Wyrick, J.C.; Yerkobich, S.M.

Beginning students will normally take EH 111 and two additional courses selected from among EH 112, 121, 122, 123 and 124, which are designed for Freshmen. Qualified students, however, may substitute more advanced courses with the approval of a Departmental Adviser.

(EH 101) Elementary English.
Credits: Maximum of 9
Credit acquired through CLEP examination representing an attainment of a minimum knowledge of the subject as designated and mandated by state inter-institutional agreement. Credit so earned must be acquired before enrollment at the University of Florida.

ENC 1102 (EH 111) Expository Writing. F, W, S, SS.
Credits: 3
An introduction to the methods of exposition — definition, classification, comparison and contrast, illustration, analysis. EH 111 or its equivalent is required as a prerequisite for all other English courses.

(EH 112) Argumentative and Persuasive Writing. F, W, S, SS.
Credits: 3
An introduction to the methods of argument and persuasion.

ENG 1200 (EH 121) Introduction to Fiction. F, W, S, SS.
Credits: 4
The reading of novels and short stories by classical, modern, and contemporary authors. Five papers will be required.

ENG 1400 (EH 122) Introduction to Drama. F, W, S, SS.
Credits: 4
The reading of drama by classical, modern, and contemporary playwrights. Five papers will be required.

ENG 1710 (EH 123) Introduction to Poetry. F, W, S, SS.
Credits: 4
The reading of poetry by classical, modern, and contemporary poets. Five papers will be required.

ENC 1256 (EH 124) The Rhetoric of Film. W, S
Credits: 3
A course designed to improve the student's writing through the use of short films to demonstrate rhetorical techniques such as patterns of organization and development, point of view, and other rhetorical devices.

ESL 2422 (EH 241) English Language and Writing for Foreign Students. F, W, S, SS.
Credits: 2 to 5
A study of language principles with concern for their influence on writing. May be repeated for a maximum of 15 hours. Does not satisfy general education requirements in English.

ENG 2932 (EH 291-292-293) Comprehensive English: College Honors. F, W, S, SS.
Credits: 3 each; Enrollment by invitation.
EH 291 focuses on drama; EH 292, on fiction; EH 293, on poetry. Textual materials are chosen to match the abilities of honors students, who are encouraged to show originality, invention, and responsibility in reading, speaking and writing, in leading discussions, in investigating, interpreting, reporting, and defending their findings.

FUNDAMENTAL MATHEMATICS
University College

INSTRUCTIONAL STAFF 1976-77

Bednarek, A.R., *Chairman*; Block, L.; Brechner, B.L.; Cenzer, D.A.; Farmer, K.B.; Long, R.L.; Nelson, C.W.; Nummela, E.C.; White, N.L.

Credit by CLEP examination only. This credit represents attainment of only that minimum knowledge of the subject designated by passing level mandated by state interinstitutional agreement. It is available to those not wishing to avail themselves of the usual University of Florida general education course work in the subject. Students who obtain CLEP credit must do so before enrolling in the University of Florida General Education courses.

(CMS 101) Elementary College Math
Credits: Maximum of 9
Credit by CLEP examination only. This credit represents attainment of only that minimum knowledge of the subject designated by passing level mandated by state interinstitutional agreement. It is available to those not wishing to avail themselves of the usual University of Florida general education course work in the subject. Students who obtain CLEP credit must do so before enrolling in the University of Florida General Education courses.

MGF 1113 (CMS 111) Fundamental Mathematics. F, W, S, SS.
Credits: 4
A general education course which includes the study of the characteristics and the development of particular mathematical systems as well as the fundamental concepts underlying mathematical systems in general.

HUMANITIES
University College

INSTRUCTIONAL STAFF 1976-1977

McKnight, S.A., Acting Chairman; Altizer, A.; Bigelow, G.; Carson, R.; Derrick, C.; Funk, A.L.; Goldhurst, W.; Goslinga, C.; Graeffe, A.D.; Hartigan, K.V.; Hodges, J.R.; Isenberg, S.R.; Jaberg, R.L.; Johnson, I.; Kniseley, S.P.; Kotey, P.A.; Lambert, R.E.; Langford, A.G.; Lewis, A.L.; Malvern, M.M.; Murray, E.D.; Price, J.W.; Sunwall, J.R.; Taylor, F.H.G.; Ulmer, G.; Wear, R.A.; Schmeling, G.; Sussman, L.

The General Education Humanities requirement may be met by taking HUM 211-221-231. College Honors students take HUM 291-292-293.

The Humanities courses in University College are intended to enlarge appreciation of the arts and to increase the student's understanding of himself and his world by examining significant and conflicting views of the nature of man and his values, accepted in varying times and societies.

The Humanities courses interrelate outstanding examples of man's creative achievements, from primary sources where feasible, in philosophy, the arts, literature and music. The organization is developmental, and the various examples are examined in terms of such themes as the nature of reality, rationality and nonrationality, good and evil, freedom and bondage, the good life.

HUM 211-221-231 and HUM 291-292-293 use examples from Western culture, typically including works by Homer, Euripides, Plato, Matthew, Machiavelli, Michelangelo, Shakespeare, Spinoza, Rembrandt, Voltaire, Bach, Mozart, Beethoven, Goethe, Dostoyevsky, Freud, Debussy, Eliot, Sartre, Hesse, Picasso, Stravinsky, Le Corbusier, Ingmar Bergman, *et al.* Asian Humanities (HUM 232) and African Humanities (HUM 233) are similar in goals and method to the sequence HUM 211-221-231 but differ in content.

(HUM 101) Elementary Humanities
Credits: Maximum of 9
Credit by CLEP examination only. This credit represents attainment of only that minimum knowledge of the subject designated by passing level mandated by state interinstitutional agreement. It is available to those not wishing to avail themselves of the usual University of Florida general education course work in the subject. Students who obtain CLEP credits must do so before enrolling in the University of Florida General Education courses.

HUM 2210 (HUM 211) Western Humanities. F, SS.
Credits: 4
hhe first course in the sequence HUM 2210-2230-2250. Selections from the Greek and the Judeo-Christian heritages, the Gothic period.

HUM 2230 (HUM 221) Western Humanities. W.
Credits: 4
The second course in the sequence. HUM 2210-2230-2250. Selections from the Renaissance to late 19th century.

HUM 2250 (HUM 231) Western Humanities. S, SS.
Credits: 4
The third course in the sequence HUM 2210-2230-2250. Selections from the later 19th century and the 20th century.

HUM 2410 (HUM 232) Asian Humanities. F, W, S.
Credits: 5
A general education course similar in philosophy and purpose to HUM 2210-2230-2250. Content selected from the philosophies, literature, arts and music of India, China, Japan. May be used either as an elective or as a requirement in the area of the Humanities.

HUM 2420 (HUM 233) African Humanities. F, W, S.
Credits: 5
A general education course similar in philosophy and purpose to HUM 2210-2230-2250. Content selected from various African countries and regions. May be used either as an elective or as a requirement in the area of the Humanities.

HUM 2930 (HUM 250) The Humanities: Special Topics. F, W, S.
Credits: 4
Multi-disciplinary general education courses on topics to be announced prior to each registration. May be used either as an elective or as a requirement in the area of the Humanities.

HUM 2229 (HUM 291) Western Humanities: College Honors. F.
Credits: 4; Prereq: Enrollment in College Honors.
The first course in the sequence HUM 2229-2239-2259. Similar to HUM 2210 structured to the abilities of qualified students.

HUM 2239 (HUM 292) Western Humanities: College Honors. W.
Credits: 4 Prereq: Enrollment in College Honors.
The second course in the sequence HUM 2229-2239-2259. Similar to HUM 2230 structured to the abilities of qualified students.

HUM 2259 (HUM 293) Western Humanities: College Honors. S.
Credits: 4; Prereq: Enrollment in College Honors.
The third course in the sequence HUM 2229-2239-2259. Similar to HUM 2250 structured to the abilities of qualified students.

THE PHYSICAL SCIENCES
University College

INSTRUCTIONAL STAFF 1976-77

Pirkle, E.C., Chairman; Abbott, E.F.; Brookeman, J.R.; Broyles, A.A.; Chen, K.Y.; Cohen, H.L.; Cross, C.I.; Davis, R.W.; Donivan, F.F.; Dunkle, J.R.; Dunnam, F.E.; Eoff, K.M.; Garrett, R.E.; Helling, J.F.; Leacock, R.J.; Lindquist, R.C.; Lynch, M.A.; Marcus, R.B.; Mueller, P.A.; Mundy, B.W.; Olsson, C.N.; Omer, G.C.; Peterson, L.R.; Roberts, L.H.; Smith, D.L.; Yoho, W.H.; Yorton, J.B.

These physical sciences courses are designed to provide the student who may not take further work in physical sciences with an insight into how science has developed and with an understanding of basic phenomena which together make up the physical setting for human society and which have a direct bearing on the development of human society.

The following courses constitute recommended sequences with the courses listed in the sequential order in which they should be taken:

223, 231, and 241
223, 225, and 235
216, 226, and 236

(CPS 101) Elementary Physical Sciences
Credits: Maximum of 4.S
Credit by CLEP only. This credit represents attainment of only that minimum knowledge of the subject designated by passing level mandated by state interinstitutional agreement. It is available to those not wishing to avail themselves of the usual University of Florida general education course work in the subject. Students who obtain CLEP credit must do so before enrolling in the University of Florida General Education courses.

PSC 1502 (CPS 123) The Physical Sciences. SS
Credits: 4
Content consistent with the goals of CPS 223. Admission by invitation.

PSC 1510 (CPS 125) The Physical Sciences. F.
Credits: 4
Content consistent with the goals of CPS 225. Admission by invitation.

PSC 1420 (CPS 135) The Physical Sciences. W.
Credits: 4
Content consistent with the goals of CPS 235. Admission by invitation.

PSC 2900 (CPS 211) Men and Concepts. W, S.
Credits: 4
How concepts in science develop shown through the use of case studies taken from the historical development of planetary astronomy and mechanics. Readings, some of them original scientific writings, illustrate the ideas of such men as Ptolemy, Copernicus, Kepler, Galileo and Newton. Emphasis is on how science works rather than explanations of what science knows.

(CPS 216) Fundamentals of Physical Science. F.
Credits: 4
The first quarter of the CPS 216-226-236 sequence. Topics covered in this sequence of courses are from physics, chemistry, geology and astronomy and are selected to show the interrelations of these sciences. The nature and structure of scientific knowledge is emphasized. CPS 216 topics include mechanics, Newtonian system, macroscopic properties of matter, energy, electricity and magnetism, and atomic structure.

PSC 2501 (CPS 223) Our Environment. F, W, S, SS.
Credits: 4
This course integrates materials from astronomy, meterology, climatology, geology and physical geography in considering those factors of the physical environment which influence civilization.

ISC 2452 (CPS 225) Man's Interactions with the Physical Environment. F, W, S, SS.
Credits: 3; CPS 223 is recommended for background.
Whereas CPS 223 treats the factors of the physical environment which have influenced the development of civilizations, this course considers the impact that man is now having on the physical environment.

ISC 2401 (CPS 226) Fundamentals of Physical Science. W.
Credits: 3; Prerequisite: CPS 216.
Continuation of CPS 216. Applications of atomic structure to chemistry, also the chemical bond, chemical calculations, types of chemical reactions, and selected topics from organic chemistry.

PSC 2701 (CPS 231) The Scientific Basis of Technology. W, S, SS.
Credits: 3; (No prerequisites.)
Scientific principles underlying modern technology, consideration of the nature of matter and energy, the relationship between the properties of matter and its structure, the conversion of energy resources into useful work, and problems associated with population growth and technology.

(CPS 235) Natural Regions. F, W, S, SS.
Credits: 4; (No prerequisites.)
A study of the natural regions of the United States, including the origin of physiographic features and the origin and occurrences of natural resources.

ISC 2402 (CPS 236) Fundamentals of Physical Sciences. S.
Credits: 3; Prerequisites: CPS 216 and 226.
Continuation of CPS 216 and 226. Selected topics from geology and astronomy: earth materials, processes shaping the earth, structure of the earth, paleontology, the solar system, evolution and properties of stars, and evolution and structure of the universe.

ISC 2453 (CPS 241) Physical Science: Energy and Society. W, S.
Credits: 3
A study of energy, its sources and utilization, the interconversion of the forms of energy, the circumstances which have led to energy shortages, the political and social effects of the energy crisis, and the outlook for the future.

ISC 2454 (CPS 245) Physical Foundations of Environmental Sciences. S.
Credits: 4; Prerequisite: CPS 225 or equivalent.
An intermediate course on physical principles underlying man's interactions with the environment. Topics studied are selected to illustrate a wide range of physical considerations related to the environmental impact of technological developments. Basic knowledge of environmental principles is required.

PSC 2936 (CPS 251) The Physical Sciences: Special Topics. When needed.
Credits: 4
Topics and problems for individual and small group investigation; techniques of research, documentation, reports, critiques. Admission by permission of departmental chairman.

PSC 2191L (CPS 264) Laboratory in the Physical Sciences.
Credits: 1; Coreq. or prereq.: any single quarter of CPS.
A laboratory inculcating scientific methods of investigations and using selected concepts in the Physical Sciences.

PSC 2901-2507-2707 (CPS 291-292-293) The Physical Sciences: College Honors. 291: F; 292: W; 293: S.
Credits: 3 each
Content consistent with the goals of CPS 223-225-235 structured to the abilities of qualified students.

(CPS 342) Space and Society. S.
Credits: 4
This course considers the extent of man's exploration of the environment of extraterriestrial space. The present uses of the environment of space are stressed, and the possible future endeavors of man in this new environment are explored.

THE SOCIAL SCIENCES
University College

INSTRUCTIONAL STAFF 1976-77

Doherty, H.J., Chairman; Baringer, W.E.; Bentley, G.R.; Blakey, A.F.; Burns, A.M.; Button, J.W.; Colburn, D.R.; Cox, M.G.; Griffis, C.S.; Haddock, K.C.; Hammond, E.A.; Hoffman, G.J.; Jacobson, J.E.; Lamme, A.J.; Lawless, R.; Nelson, W.M.; Oliver-Smith, A.R.; Owen, D.E.; Peek, R.L.; Pleasants, J.M.; Pozzetta, G.E.; Proctor, S.; Purdy, B.A.; Scher, R.K.; Shenkman, F.A.; Slaughter, J.E.; Walker, J.E.; Wilson, H.A.

This department offers the following coursework in satisfaction of the general education requirement in the social sciences. The courses titled American Institutions aim at providing an understanding of trends and movements of the twentieth century world, with special reference to American culture and institutions. By providing a synthesis which cuts across the traditional disciplines of history, anthropology, sociology, economics, law, and political science the department attempts to give students both breadth and depth of knowledge with which they may better approach an understanding of the society in which they live.

(SSC 101) Elementary Social Sciences
Credits: Maximum of 9
Credit by CLEP only. This credit represents attainment of only that minimum knowledge of the subject designated by passing level mandated by state interinstitutional agreement. It is available to those not wishing to avail themselves of the usual University of Florida general education course work in the subject. Students who obtain CLEP credit must do so before enrolling in the University of Florida General Education courses.

SSI 2110 (SSC 211) American Institutions: Culture and the Socializing Institutions. F, S, SS
Credits: 3
An introduction to the study of the culture of the United States emphasizing the concepts of cul-

ture and institutions and the formative nature of the domestic, educational, and religious institutions.

ECONOMIC AND POLITICAL INSTITUTIONS (SSC 221, SSC 222, SSC 223, SSC 352)
Upon completion of SSC 211, students may elect one of the following courses which develop different approaches to the study of the economic and political aspects of American culture. Students should not elect more than one of these courses.

SSI 2120 (SSC 221) American Institutions; The Emergence of the Economic and Political Institutions. F, W, SS.
Credits: 3
The historical development of the economic and political institutions of the United States with emphasis upon their roles in modern society.

SSI 2122 (SSC 222) American Institutions; The Economic and Political Institutions of Urban America. W.
Credits: 3
The development of the economic and political institutions of the United States with special emphasis upon the emergence of problems peculiar to the urbanized America of the twentieth century.

SSI 2121 (SSC 223) American Institutions; Economic and Political Institutions from Minority and Ethnic Group Perspectives. W.
Credits: 3
The development of the economic and political institutions of the United States with special reference to the contributions and problems of national and ethnic groups in nineteenth and twentieth century America.

SSI 3127 (SSC 352) American Institutions; Special Topics. W.
Credits: 4
Interdisciplinary study of topics related to the economic and political institutions of the United States. Designed for advanced students. Topics announced annually as offered.

AMERICAN INSTITUTIONS IN WORLD PERSPECTIVE
(SSC 231, SSC 232, SSC 281, SSC 316, SSC 353)
Upon completion of two quarters of American Institutions students may elect one of the following courses which relate the United States to the world scene. Students should not elect more than one of these courses.

SSI 2221 (SSC 231) American Institutions; America's Role in World Affairs. F, W, S, SS
Credits: 3
The impact of the United States upon the world since the Second World War with special reference to international relations and comparative economic and political systems.

SSI 2201 (SSC 232) American Institutions in World Perspective. S
Credits: 3
A cross-cultural analysis of the major institutions of the United States and those of selected significant regions of the modern world.

(SSC 281) Asia and Its Peoples. W, S.
Credits: 5 (Ident with AS 281)
An introductory study of Asia, with special attention to selected current problems as reflected in life situations in Asian countries.

(SSC 316) Patterns of Intercultural Communication. W, S.
Credits: 4 (Ident. with SCH 316).
Exploration of practices, trends and difficulties of communicating across cultural boundaries; investigating of guidelines by which cross cultural communication problems can be mitigated.

SSI 3227 (SSC 353) American Institutions: Special Topics. S
Credits: 4
Interdisciplinary study of topics related to the role of the United States in world affairs or in the perspective of other cultures. Designed for advanced students. Topics announced annually as offered.

SPECIAL SERVICES COURSES
(SSC 219-229-239) American Institutions. 219 SS, 229 F, 239 W.
Credits: 219-4; 229-3; 239-3
Content consistent with the goals of SSC 211, 221, 231, structured to the abilities of qualified students. Admission by invitation only.

SEMINAR STUDY
(SSC 251) Seminar in American Institutions. F, W, S
Credits: 3
Directed investigations into broad topics encountered in the study of the institutions of American culture, utilizing the methodology of the social sciences for an interdisciplinary approach to topics. May be repeated with change of content up to a maximum of 9 credits.

HONORS COURSES
(SSC 291, SSC 292, SSC 293)
Honors courses are specially structured for students of high intellectual promise who possess the initiative for much individual work. Admission to these courses is by invitation only.

SSI 2114—2124—2224 (SSC 291-292-293) American Institutions; College Honors. 291-F, 292-W, 293-S.
Credits: 3 each
An interdisciplinary study of American Institutions specially structured to the abilities of qualified students.

INTERDISCIPLINARY HONORS AND INTEGRATIVE STUDIES
University College

Interdisciplinary Honors
INSTRUCTIONAL STAFF 1976-77
Sciadini, F., *Chairman*

(UCH 291-292-293) Interdisciplinary Honors: Variable Topics. 291-F; 292-W; 293-S
Credits: 4 each
This course is designed for beginning honors students to improve their research skills.

Integrative Studies
INSTRUCTIONAL STAFF 1976-77
Burns, A; Peterson, L; Schmidt, P.

(UCI 371) Integrative Studies For Preprofessional students: Architecture
Credits: 5
This course offers general education in a format designed for the architecture student. Drawing on insights which emanate from classic works in the social sciences, humanities, and physical sciences, this course explores trends in man's relationship to nature, self, and society. It utilizes the metaphor of "cathedral" to introduce students to perspectives on the dilemmas of modern culture and to emphasize connections, relationships, and patterns of behavior which define and characterize contemporary life. Taught through the cooperative efforts of faculty from various disciplines, this course seeks to enrich the pre-professional student's intellectual horizons without sacrificing the student's professional interest and to establish a setting for putting one's chosen field into relation with other fields and specialties.

ACCOUNTING
College of Business Administration

INSTRUCTIONAL STAFF 1976-77
Simmons, J.K., Chairman; Ajinkya, B.B.; Anderson, C.A.; Bailey, K.E.; Barefield, R.M.; Benninger, L.J.; Boyles, J.V.; Brown, C.E.; Christmann, T.G.; Collins, W.A.; Friedberg, A.H.; Gift, M.J.; Gleim, I.N.; Hasselback, J.R.; Holstrum, G.L.; Hopwood, W.S.; Jain, R.; Lee, T.E.; Maddocks, P.M.; Mayper, A.G.; McDonald, C.L.; O'Doherty, B.A.; Ray, D.D.; Smith, E.D.; Snowball, D.A.T.; Stone, W.E.; Teichman, R.J.; Wallace, W.A.; Welch, P.R.; Westmoreland, G.; Wragge, J. H.; Yu, L.Y.; Yu, S.C.

Courses numbered 300 or higher are open only to students with Junior standing or above. Courses numbered below 300 are not open to students with 4BA classification. Note, in addition, the specific prerequisites for certain courses. A student may not take an accounting course (with the exception of ATG 203) unless a grade of "C" or better has been earned in each accounting prerequisite to that course.

ACC 2001 (ATG 201) Elementary Financial Accounting. F, W, S, SS.
Credits: 5
Accounting as a device for measurement of business activity. Assumptions underlying accounting; recording and reporting transactions; preparation, interpretation, and analysis of financial statements.

ACC 2301 (ATG 203) Elementary Managerial Accounting. F, W, S. SS.
Credits: 3; Preq: ATG 201.
Accounting for cost reporting and control. Reports, statements and analytical tools used by management. Especially recommended for students not intending to be accounting majors.

ACC 2401 (ATG 285) Cost and Management Accounting I. F, W, S, SS.
Credits: 3; Prereq: ATG 201.
A study of basic cost terminology; an introduction to management accounting including job, process and joint product cost accounting. Required for accounting major students.

ACC 3103 (ATG 301) Intermediate Accounting F, W, S, SS.
Credits: 5; Prereq: ATG 203 or 285; Coreq: FI 326.
A study of the assumptions underlying income determination and the theories of matching costs with revenue. Asset acquisition and evaluation.

ACC 3123 (ATG 302) Intermediate Accounting. F, W, S, SS.
Credits: 5; Prereq: ATG 301 and FI 326.
A continuation of ATG 301.

ACC 3421 (ATG 305) Cost and Management Accounting II. F, W, S, SS.
Credits: 4; Prereq: ATG 285 and FI 326.
An intensive study of financial information useful for planning and control with emphasis upon standard costing.

ACC 4443 (ATG 401) Accounting for Management. S.
Credits: 4, Prereq: ATG 305 and BA 300.
Interpretative accounting for management purposes.

ACC 4604 (ATG 405) Auditing and Internal Control. F, W, S, SS.
Credits: 4; Prereq: ATG 302, BA 440.
A study of auditing standards and procedures and their relation to principles and systems of internal control of business operations.

ACC 4501 (ATG 407) Income Tax Accounting. F, W, S, SS.
Credits: 4; Prereq: ATG 201.
Federal income tax law and related management and accounting problems.

ACC 4541 (ATG 408) Advanced Federal Tax Accounting. F, W, S.
Credits: 3; Prereq: ATG 407.
Management and accounting problems encountered by various entities under federal tax law.

Descriptions

ADVERTISING

ACC 4203 (ATG 409) Advanced Accounting. F, W, S, SS.
Credits: 4; Prereq: ATG 302.
Analysis of accounting procedures for consignment and installment sales, partnerships, branches, consolidations, foreign operations, and other advanced topics.

ACC 4741 (ATG 418) Information Systems for Management Planning and Control. W.
Credits: 4; Prereq: BA 440.
The application of the systems approach to the development of the accountants function of providing information for management.

ACC 4911 (ATG 496) Individual Work in Taxation F, W, S, SS.
Credits: 1 to 3; Prereq: ATG 407 and permission of Department.
For students who wish to support regular coursework in taxation by individual study under guidance. May be repeated with change in content up to a maximum of 6 credits.

ACC 4934 (ATG 498) Special Topics F, S.
Credits: 1 to 4; Prereq: Permission of Department.
Course of variable content providing an opportunity for study in depth of topics not offered in other courses and of topics of special current significance. May be repeated with change in content up to a maximum of 8 credits.

ADVANCED ACCOUNTANCY AND GRADUATE COURSES

Courses in the 500 group are available to undergraduate students with the approval of their adviser. The fifth year advanced accountancy degree (AAB) requires successful completion of at least 22 credits of advanced courses chosen from the 500 or 600 level courses listed below. Registration in 600 level courses requires adviser approval.

ACC 5513 (ATG 504) Federal Income Taxation of Business Organizations. W, S.
Credits: 3; Prereq: ATG 407.

ACC 5531 (ATG 505) Federal Income Tax Planning. W.
Credits: 3; Prereq: ATG 407.

ACC 5231 (ATG 507) Advanced Accounting Topics. F, W, S.
Credits: 4; Prereq: ATG 302.

ACC 5745 (ATG 508) Management Information Systems Theory. S.
Credits: 4, Prereq: BA 540.

ACC 5251 (ATG 509) Accounting Problems. (not offered 1977-78)
Credits: 4, Prereq: ATG 302.

ACC 5011 (ATG 510) Financial Accounting. F, W, S.
Credits: 5 [not for accounting majors].

ACC 5865 (ATG 517) Public Administration Accounting. W.
Credits: 4; Prereq: ATG 302.

ACC 6290 (ATG 600) Accounting Theory.
Credits: 4.

ACC 6811 (ATG 603) Social and Economic Accounting.
Credits: 5.

ACC 6837 (ATG 604) Accounting and Analytical Methods.
Credits: 5.

ACC 6557 (ATG 605) The Federal Income Tax: Functional Analysis.
Credits: 5.

††Grading is on a S-U basis only.

ACC 6692 (ATG 606) Advanced Auditing.
Credits: 4.

ACC 6827 (ATG 608) Interdisciplinary Considerations in Accounting Theory Development.
Credits: 5.

ACC 6331 (ATG 611) Cost Accounting Theory and Applications. S.
Credits: 4.

ACC 6910 (ATG 691) Accounting Research and Reports.
Credits: 2; Prereq: BA 690.

ACC 6905 (ATG 696) Individual Work in Accounting.
Credits: 1 to 5.

ACC 6912 (ATG 697) Supervised Research.
Credits: 1 to 5.††

ACC 6974 (ATG 698) Supervised Teaching of Accounting.
Credits: 1 to 5.††

ACC 6971 (ATG 699) Masters Research.
Credits: 1 to 15.††

ACC 7291 (ATG 701) Development of Thought in Accounting Theory.
Credits: 5.

ACC 7292 (ATG 702) Accounting Information for External Users.
Credits: 5.

ACC 7395 (ATG 707) Accounting Theory as Related to Managerial Decision Making.
Credits: 5.

ACC 7981 (ATG 790) Accounting Research Workshop.
Credits: 4.

ACC 7980 (ATG 799) Doctoral Research.
Credits: 1 to 15.††

ADVERTISING
College of Journalism and Communications

INSTRUCTIONAL STAFF 1976-77

Terhune, J.L., Chairman; Carr, H.L.; Holland, D.R.; Hooper, L.J.; Malickson, D.L.; Pierce, F.N.; Pisani, J.R.

The program in advertising is designed primarily to train men and women for planning, creative, administrative, sales or other positions with advertisers, media, or agencies. These courses, however, may be taken for elective credit by students in all Upper Division units of the University. Students who are interested in major work in Advertising, Journalism, Radio, Television and Public Relations are also referred to course offerings under Broadcasting, Journalism and Public Relations and to the requirements of the College of Journalism and Communications.

ADV 3000 (ADV 306) Elements of Advertising. F, W, S, SS.
Credits: 4; Prereq: Junior standing or JM 201.
The role of advertising in a free economy, and its place in the media of mass communications. A study of advertising appeals, product and market research, selection of media, testing of advertising effectiveness, organization of the advertising profession.

ADV 4103 (ADV 402) Radio-TV Advertising. F , W, S, SS.
Credits: 4; Prereq: JM 201 and ADV 306.
Study of economics, standards and ethics of radio and television advertising copy. Preparation and presentation of commercial broadcast copy.

ADV 4600 (ADV 403) Advertising Agency Management. W, S.
Credits: 4; Prereq: Senior standing.
An overview of the advertising agency business in the U.S. with emphasis on the advertising agency as a business operation. Includes billing procedures, income sources, cost-accounting techniques, internal operations, personnel policies, the law and the agency and current trends.

ADV 4500 (ADV 407) Public Opinion Theory and Advertising. F, W, S, SS.
Credits: 5; Prereq: Senior standing.
The dynamics of advertising and promoting goods, services, and ideas in terms of modern public opinion concepts, communication theory, semantics and the behavioral sciences.

ADV 4101 (ADV 410) Copywriting and Visualization. F, W, S, SS.
Credits: 4; Prereq: JM 201 and ADV 306.
Theory and practice of writing copy and preparing rough visuals for print advertising, including newspapers, magazines, direct mail and outdoor advertising.

ADV 4300 (ADV 411) Media Buying Strategy. F, S.
Credits: 4; Prereq: ADV 306 and Senior standing.
Designed to acquaint students with the problems, techniques and strategy of buying advertising space and time effectively and economically in newspapers, magazines, radio, television and outdoor media.

ADV 4800 (ADV 412) Advertising Campaigns. F, W, S, SS.
Credits: 4; Prereq: ADV 402, ADV 410, and Senior standing.
An advanced advertising course requiring the student to prepare and produce complete general advertising campaigns. Emphasis is placed on production methods, costs, research and media analysis.

ADV 4200 (ADV 415) Advertising Graphics and Production. F, S.
Credits: 3; Prereq: ADV 306.
Designed to acquaint students with the terminology and production techniques of the advertising business. Lectures will cover such subjects as typography, printing, engraving, photography, silk screening, direct mail, exhibits, displays, packaging.

ADV 4102 (ADV 420) Advanced Copywriting. W, S.
Credits: 4; Prereq: ADV 402, ADV 410, and Senior standing.
Advanced projects in major advertising fields — e.g., consumer, public service and industrial advertising. Emphasis on research, planning, and writing. Group discussions and individual conferences.

ADV 4932 (ADV 431) Individual Problems in Advertising (Honors).
Credits: 1 to 5.
At least 15 hours of Advertising in the Upper Division, good standing in the Honors Program, approval of the Honors Committee and approval of the Chairman. The student and the instructor concerned will choose a problem or project which is consonant with the objectives of the Honors Program.

ADV 4400 (ADV 433) International Advertising.
Credits: 4; Prereq: ADV 306 and Senior standing.
Advertising in the world's markets. A review of the various advertising methods and techniques in copy and layout used outside the U.S. Emphasis on the relationship of foreign advertising to the American style.

ADV 4700 (ADV 450) Retail Advertising. F, W, S.
Credits: 4; Prereq: ADV 410 and consent of the instructor.
A Senior course bringing together work of the preceding advertising courses into actual experience and training in the planning, preparation, presentation and selling of retail advertising.

ADV 4931 (ADV 465) Seminar: Ethics and Problems in Advertising. F, W, S, SS.
Credits: 4.
Open only to advertising Seniors in their graduating quarter, or on approval of instructor. Bringing together the work of preceding advertising courses and projecting this knowledge to the solution of problems that will arise in the professional field.

ADV 4930 (ADV 490) Special Study in Advertising. S.
Credits: 1 to 5.
Open only to advertising Seniors with approval of the Chairman. Variable content, providing opportunity for study in academic areas of Advertising such as Comparative Advertising, Computer Applications in Advertising Research and other fields within the province of the College. May be repeated with change of content up to a maximum of 6 credits.

ADV 4930 (ADV 496) Individual Problems. F, W, S, SS.
Credits: 1 to 5
At least 15 hours of Advertising in the Upper Division, and approval of the Chairman. The student and the instructor concerned will choose a problem or project which will give the student experience in his major field.

ADV 4949 (ADV 499) Co-op Work Experience. F, W, S, SS
Credits: 1 to 5.
Prereq: At least 15 hours of professional courses must have been earned. Must have academic adviser, department and college approval to receive credit. Students and instructor concerned will select an appropriate work area related to the field of advertising or an appropriate communications area where the students may gain work experience and/or on-the-job training.

AEROSPACE ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1976-77

Millsaps, Knox, Chairman; Anderson, R.C.; Boykin, W.H., Jr.; Chiu, T. Y.; Clarkson, M.H.; Cristescu, N.; Doddington, H.W.; Ebcioglu, I.K.; Edson, C.G.; Eisenberg, M.A.; Fearn, R.L.; Green, A.E.S.; Grinter, L.E.; Hammack, J.L., Jr.; Hartley, C.S.; Hemp, G.W.; Hoover, J.W.; Kalman, R.E.; Keefer, D.R.; Kurzweg, U.H.; Latif, M.A.; Leadon, B.M.; Lindgren, E.R.; Lu, S.Y.; Malvern, L.E.; Mehta, A.J.; Milton, J.E.; Nevill, G.E., Jr.; Partheniades, E.; Purpura, J.A.; Ross, C.A.; Shemdin, O.H.; Sheppard, D.M.; Sierakowski, R.L.; Unluata, U.A.; Walsh, E.K.; Wang, Y.H.; Williams, D.T.

AES 1930 (ASE 100) Freshman Seminar in Aerospace Engineering F, W, S, SS.
Credits: 1 ††
Discussion of a field of aerospace engineering endeavor. Consult department each quarter for particular subject offered. May be repeated with a change of content up to a maximum of 3 credits.

EAS 3001 (ASE 305) Elements of Aeronautics and Astronautics. F.
Credits: 3; Prereq: 2 quarters of physics or physical science.
Survey of topics in aeronautics and astronautics. History of flight. Sociological and economic effects of aerospace technology. Elements of the technology of flight.

EAS 4105 (ASE 400) Applied Aerodynamics. W.
Credits: 4; Prereq: ASE 305 or consent of instructor.
Aircraft performance, aerodynamic design data, and elements of stability and control.

EAS 4106 (ASE 401) Low Speed Aerodynamics. F.
Credits: 5; Prereq: ESM 311, ESM 431 and ASE 400.
Basic equations of motion for the flow of an incompressible fluid. Potential flow, boundary layer theory and turbulence. Applications to problems in low speed aerodynamics. Wind tunnel experiments.

EAS 4112 (ASE 402) High Speed Aerodynamics. W.
Credits: 5; Prereq: ESM 311, ESM 431, ASE 401.
Basic equations of motion for the flow of a compressible fluid. Isentropic flow, normal and oblique shock waves, linearized flows, method of characteristics. Applications to problems in high speed aerodynamics.

EAS 4122 (ASE 403) Wing and Airfoil Theory. S.
Credits: 4; Prereq: ASE 401 and ASE 402 or consent of instructor.
Selected topics in the theory of flight. Included are airfoil theory and Prandtl's lifting line theory for low speed, high aspect ratio wings.

EAS 4002 L (ASE 404) Aerospace Laboratory. W, S.
Credits: 1; Prereq: ASE 401
Laboratory experiments in aerospace engineering.

EAS 4400 (ASE 420) Stability and Control of Aircraft
Credits: 4; Prereq: ESM 431 and ASE 400.
Static stability and control; equations of motion; stability derivatives; stability of longitudinal and lateral motion of aircraft.

EAS 4200 (ASE 441) Aerospace Structures 1. S.
Credits: 5; Prereq: ASE 305 and ESM 302; Coreq: ESM 303.
Types of flight structures. Flight and dynamic loads. Bending and shear analysis of flight structures. Lecture, laboratory and problem solving sessions.

EAS 4210 C (ASE 442) Aerospace Structures 2. F.
Credits: 5; Prereq: ASE 441.
Elastic analysis of flight structures. Matrix methods for deflections and indeterminate analyses. Use of computers in solutions.

EAS 4220 (ASE 443) Aerospace Structures 3. W.
Credits: 4; Prereq: ASE 441
Allowable loads and strength analysis. Practical problems in strength checking of structural components. Design choices in structural materials and configurations.

EAS 4201 L (ASE 444) Aerospace Structures Laboratory. F, W.
Credits: 1; Prereq: ASE 441
Experimental methods of stress determination in flight structures. Proof test of structures and demonstration of failure modes.

EAS 4240 (ASE 445) Aerospace Structural Composites 1.
Credits: 3; Prereq: MSE 300 and ASE 441.
Various types and applications of structural composites used in flight structures. Introduction to analysis of structural composites.

EAS 4230 (ASE 451) Introductory Aeroelasticity. S.
Credits: 3; Prereq: ASE 441, ASE 401
Vibrations in typical flight structures. Self-excited aeroelastic systems. Stability of oscillating system. Fundamentals of surface flutter. Static aeroelastic effects. Acoustics in aero-space applications.

EAS 4300 (ASE 461) Aerospace Propulsion 1. F.
Credits: 5; Prereq: ME 360
Supersonic diabatic flow: the turbojet; the ramjet. Rocket performance criteria. Rocket fuels; design of liquid and solid fueled rockets. High performance systems for aerospace propulsion. Lectures, laboratory experiments, and problem solving sessions.

EAS 4310 (ASE 462) Aerospace Propulsion 2. W.
Credits: 3; Prereq: ASE 461
Requirements for propulsion systems on space missions. High specific impulse systems: nuclear rocket; electric propulsion. Special space applications.

EAS 4412 (ASE 470) Principles of Guidance and Control.
Credits: 3; Prereq: ESM 330 or consent of instructor.
Review of current missile guidance systems. Relations between guidance and control. The control function: open and closed loop servo systems. Detection and information gathering as a factor in guidance precision.

EAS 4602 (ASE 471) Elements of Manned Atmospheric and Space Flight. S.
Credits: 3
Introduction to man's requirements in atmospheric and space flight. An engineering approach to psychic stress relief and physiological well-being in the aerospace environment.

EAS 4803 (ASE 475) Instrumentation for Aerospace Engineers. W.S.
Credits: 3; Prereq: EE 301 or consent of instructor .
An introduction to the techniques of modern instrumentation for aerospace testing, research and development.

EAS 4700 (ASE 485) Aerospace Design 1. W.
Credits: 3; Prereq: ASE 401, ASE 441
Application of the principles of analysis and design to aerospace vehicle problems.

EAS 4710 (ASE 486) Aerospace Design 2. S.
Credits: 3: Prereq: ASE 485
Second part of ASE 485-486.

EAS 4933 (ASE 490) Senior Seminar. F, W, S, SS.
Credits: 1; Prereq: 4EG classification.
Student presentations and discussions on subjects of current and continuing interest in engineering science and aerospace engineering.

EAS 4510 (ASE 494) Problems in Astronautics. S.
Credits: 3; Prereq: ESM 431
Newtonian orbits; celestial coordinate systems. Observations in the solar system. Review of astrophysics. Instruments used in space science.

EAS 4903 (ASE 496) Individual Study in Aerospace Engineering. F, W, S, SS.
Credits: 1 to 6. May be repeated to a maximum of 12 credits. Prereq: Recommendation of Department Chairman.
Selected problems or projects in the student's major field of engineering study.

EAS 4939 (ASE 498) Special Topics in Aerospace Engineering. F, W, S, SS
Credits: 1 to 6; Prereq: Permission of instructor. May be repeated with change in content to a maximum of 12 credits.

EAS 4940 (ASE 499) Co-op Work Experience. F, W, S, SS.
Credits: 1 to 5; Prereq: 4 EG classification; One term of industrial employment, including extra work according to a pre-approved outline.
Practical engineering work under industrial supervision, as set forth in College Regulations.

GRADUATE COURSES

EAS 6141 (ASE 601) Advanced Plasma Topics.
Credits: 3

EAS 6142 (ASE 602) Probe Techniques for Plasma Diagnostics.
Credits: 3

EAS 6135 (ASE 611) The Dynamics of Real Gases 1.
Credits: 3

††Grading is on a S-U basis only.

EAS 6136 (ASE 612) The Dynamics of Real Gases 2.
Credits: 3

EAS 6137 (ASE 613) The Dynamics of Real Gases 3.
Credits: 3

EAS 6221 (ASE 631) Advanced Aerospace Structures 1.
Credits: 3

EAS 6222 (ASE 632) Advanced Aerospace Structures 2.
Credits: 3

EAS 6223 (ASE 633) Advanced Aerospace Structures 3.
Credits: 3

EAS 6241 (ASE 641) Aerospace Structural Composites 2.
Credits: 3

EAS 6514 (ASE 651) Near Earth Space Operations.
Credits: 3

EAS 6503 (ASE 662) Astronautical Mechanics 1.
Credits: 3

EAS 6504 (ASE 663) Astronautical Mechanics 2.
Credits: 3

EAS 6804 L (ASE 671) Advanced Space Instrumentation Laboratory.
Credits: 1 to 9

EAS 6720 (ASE 681) Advanced Aerospace Design.
Credits: 1 to 9

(ASE 690) Graduate Seminar.
Credits: 1 ††

EAS 6939 (ASE 691) Special Topics in Aerospace Engineering.
Credits: 1 to 9

EAS 6915 (ASE 696) Aerospace Research
Credits: 1 to 9

EAS 6910 (ASE 697) Supervised Research
Credits: Credits: 1 to 5††

EAS 6941 (ASE 698) Supervised Teaching.
Credits: 1 to 5††

EAS 6971 (ASE 699) Master's Research.
Credits: 1 to 15††

EAS 7980 (ASE 799) Doctoral Research.
Credits: 1 to 15††

AGRICULTURE
College of Agriculture

GENERAL AND CROSS-DEPARTMENTAL COURSES

AGG 1101 (AG 180) Introductions to Careers in the Agricultural Sciences. W, S.
Credits: 2
An introduction to the various educational programs within the Institute of Food and Agricultural Sciences with special emphasis on programs of study, academic requirements, professional standards, and career opportunities.

AGG 2501 (AG 200) Agriculture in the Environment. F, W, S.
Credits: 2
Non technical lectures on the comparative relationship of agriculture to ecology and environmental impact.

††Grading is on a S-U basis only.

AGRICULTURAL AND EXTENSION EDUCATION
College of Agriculture

INSTRUCTIONAL STAFF 1976-77
Beeman, C.E., Chairman; Cheek, J.G.; McGhee, M.B.; Farrington, W.S.

AEE 3313 (AED 301) Development and Role of Extension Education. F.
Credits: 4
Extension philosophy, programs, methods and leadership principles; history of federal, state and local leadership in the development of the cooperative extension service.

AEE 3323 (AED 321) Development & Philosophy of Agricultural Education. F, S, SS.
Credits: 4
An analysis of evolving concepts and philosophies of agricultural education programs with emphasis upon history, legislation, and principles underlying organization and practice.

AEE 3200 (AED 324) Instructional Techniques in Agricultural Education. W, SS.
Credits: 4
Introduction to general techniques of teaching, selection of procedures, instructional resource management, learning environment and activities, student-teacher rapport, media and materials, and evaluation.

AEE 4941 (AED 400) Full Time Practical Work Experiences in Agricultural and Extension Education. F, W, S, SS.
Credits: 1 to 4; S-U Grade Only; Prereq: Prior arrangements with advisor, approval of Department Chairman and Dean.
Practical work must be a new experience and related to the field of study.

AEE 4424 (AED 407) Agricultural Youth Programs. W.
Credits: 4; Prereq: Junior Standing
Designed to develop understanding and abilities in conducting 4-H, FFA, and other agricultural youth programs.

AEE 4504 (AED 419) Organization of Agricultural Education Programs. F, S, SS.
Credits: 4
Principles and practices used in designing courses of instruction for effective teaching and total program development.

AEE 4224 (AED 421) Special Methods in Teaching Vocational Agriculture. F, W, SS.
Credits: 4; Prereq: AED 324
Organization of the subject matter and methods of teaching agriculture.

AEE 4227 (AED 423) Laboratory Practices in Teaching Agricultural Education. W, SS.
Credits: 4; Prereq: AED 321, AED 324, MCA 303, MCA 407.
Laboratory practices in teaching mechanics and other operative skills, conducting field and laboratory classes, providing space and teaching facilities.

AEE 4624 (AED 428) Career and Pre-Vocational Education in Agriculture. F, SS.
Credits: 4
Philosophy and operational procedures of career and pre-vocational education in agriculture with particular emphasis on the Junior High or Middle School agriculture program, program design, objectives, articulation with existing programs, clientele, methods and procedures.

AEE 4942 (AED 439) Agricultural and Extension Education Practicum. F,W,S.
Credits: 2-16; Prereq: Senior standing and consent of the department chairman.
An individualized program whereby students are apprenticed to proper officials to gain practical experience in agribusiness and natural resources education, agricultural and extension programs at the County level and agribusiness experience in selected agricultural organizations.

AEE 4943 (AED 440) Agricultural Extension Practicum. F, W, SS.
Credits: 2 to 16; Prereq: Senior standing and consent of the Department Chairman.
An individualized program whereby students are apprenticed to proper officials to gain practical experience in the agricultural extension program at the county level.

AEE 4906 (AED 496) Individual Work in Agricultural and Extension Education. F, W, S, SS.
Credits: 1 to 8; Prereq: Consent of the instructor.
Topics and special problems selected from such fields as 4-H and FFA work, demonstrations, farm and home management, rural development, and preschool planning and post school evaluation and planning.

GRADUATE COURSES

AEE 6417 (AED 601) Advanced Agricultural Leadership.
Credits: 4

AEE 6521 (AED 604) Agricultural and Extension Education Through Group Action.
Credits: 4

AEE 6300 (AED 605) Methodology of Planned Change in Agribusiness.
Credits: 4

AEE 6325 (AED 620) History and Philosophy of Agricultural Education.
Credits: 4

AEE 6523 (AED 621) Developing Community Programs in Agriculture.
Credits: 4

AEE 6541 (AED 622) Developing Curricular Materials for Programs in Agriculture.
Credits: 4

AEE 6946 (AED 624) Supervised Occupational Experiences in Agricultural Education.
Credits: 4

AEE 6611 (AED 625) Adult Education in Agriculture.
Credits: 4

AEE 6933 (AED 626) Seminar in Agricultural and Extension Education.
Credits: 1

AEE 6910 (AED 627) Non-thesis Research in Agriculture and Extension Education.
Credits: 1 to 5

AEE 6906 (AED 696) Problems in Agricultural and Extension Education.
Credits: 1 to 4; max. of 12.

AEE 6911 (AED 697) Supervised Research.
Credits: 1 to 5 ††

AEE 6947 (AED 698) Supervised Teaching.
Credits: 1 to 5 ††

AEE 6971 (AED 699) Master's Research.
Credits: 1 to 9 ††

AGRICULTURAL ENGINEERING
College of Agriculture
College of Engineering

INSTRUCTIONAL STAFF 1976-77
Zachariah, G.L., Chairman; Bagnall, L.O.; Baird, C.D.; Buffington, D.E.; Campbell, K.L.; Choate. R.E.; Fluck, R.C.; Hill, D.T.; Jones, J.W.; Khe, C.V.; Myers, J.M.; Nordstedt, R.A.; Overman, A.R.; Rogers, C.J.; Shaw, L.N.; Smerage, G.H.

AGE 4932 (AGE 403) Special Topics. F. S.
Credits: 2 to 5; Prereq: permission of instructor.
Variable subject content providing for the study

of agricultural engineering topics not offered in other courses. May be repeated up to a maximum of 10 credits.

AGE 4012 (AGE 404) Analytical and Professional Methods for Agricultural Engineering. F.
Credits: 4
Creative and functional design methods; economic principles, management techniques and systems analysis for agricultural engineering systems; professional responsibilities of agricultural engineers.

AGE 4023 (AGE 405) Agricultural Energetics. S.
Credits: 3.
Energy and agriculture, identification and measurement of energy flows in agricultural systems, concepts and tools, relationships, evaluation of alternatives.

AGE 4612 (AGE 410) Heat and Mass Transfer in Biological Systems. F.
Credits: 4; Prereq: ME 360; Coreq: ESM 311.
Transfer phenomena, steady and unsteady state heat conduction, radiation, free and forced convection, mass transfer, psychometrics, thermodynamics of biological processes.

AGE 4312 (AGE 421) Agricultural Structures, Processing Equipment and Operations. W.
Credits: 5; Prereq.: AGE 404 or equivalent, and ESM 303.
Techniques, materials and tools relating to agricultural structures, their equipment and included operations.

AGE 4632 (AGE 426) Engineering Principles of Plant and Animal Environment. S.
Credits: 4; Prereq.: AGE 404 or equivalent.
Engineering principles in the environmental design of production, storage and processing facilities for plant and animal products.

AGE 4212 (AGE 450) Soil and Water Conservation Engineering. W.
Credits: 4; Prereq.: ESM 311.
Basic hydrology; flow through porous media, flood routing and grade control structures for soil and water conservation.

AGE 4232 (AGE 451) Drainage and Irrigation Engineering. S.
Credits: 4; Prereq.: ESM 311.
The design of agricultural land drainage and irrigation systems.

AGE 4112 (AGE 460) Agricutural Tractors and Power Units. S.
Credits: 3; Prereq: ME 360 and AGE 404.
Functional requirement, characteristics, and design of tractive, mobile, and stationary agricultural power units.

AGE 4121 (AGE 461) Agricultural Field Machines. W.
Credits: 5.
Machines and mechanized systems in agricultural production; functional requirements, operating characterisitics, trends in design and development, component design, machine dynamics and experimental stress analysis.

AGE 4142 (AGE 466) Hydraulic Power Transmission and Control Systems. W.
Credits: 3; Prereq: Engineering Classification or permission from Instructor.
Transmission and control of loads with hydraulic power circuits, controls, activators, motors, and fluid-servo systems. Application or agricultural and industrial machinery.

AGE 4712 (AGE 475) Animal Waste Management. F.
Credits: 5; Prereq.: 4EG or consent of instructor.
Engineering analysis and design of systems for the handling, treatment, utilization and disposal of livestock and poultry wastes. Laboratory analysis of animal wastes, waste waters, receiving waters and soils used as a disposal medium.

AGE 4906 (AGE 496) Special Problems in Agricultural Engineering. F, W, S, SS.
Credits: 1 to 6; May be repeated up to a maximum of 12 credits in the course. Prereq: Recommendation of Department Chairman. Selected problems or projects in the student's major field of engineering study.

AGE 4941 (AGE 499) Co-Op Work Experience.
Credits: 1 to 5; Prereq: 4EG Classification; one term industrial employment, including extra work according to preapproved outline.
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

GRADUATE COURSES

AGE 6931 (AGE 601) Seminar.
Credits: 1††.

AGE 6986 (AGE 602) Research Methods in Agricultural Engineering.
Credits: 3

AGE 6031 (AGE 603) Instrumentation in Agricultural Engineering Research.
Credits: 4

AGE 6252 (AGE 671) Advanced Soil and Water Management Engineering.
Credits: 4

AGE 6152 (AGE 672) Advanced Farm Machinery.
Credits: 4.

AGE 6332 (AGE 673) Advanced Agricultural Structures.
Credits: 4

AGE 6442 (AGE 674) Advanced Agricultural Process Engineering.
Credits: 4

AGE 6933 (AGE 691) Special Topics in Agricultural Engineering.
Credits: 1 to 6

AGE 6910 (AGE 696) Non-Thesis Research in Agricultural Engineering.
Credits: 1 to 5.

AGE 6911 (AGE 697) Supervised Research.
Credits: 1 to 5††

AGE 6942 (AGE 698) Supervised Teaching.
Credits: 1 to 5††

AGE 6971 (AGE 699) Master's Research.
Credits: 1 to 15††

AGRONOMY
College of Agriculture

INSTRUCTIONAL STAFF 1976-77
Ward, C.Y., Chairman; Allen, L.H.; Barnett, R.D.; Boote, K.J.; Clark, F.; Currey, W.L.; Dean, C.E.; Dudeck, A.E.; Edwardson, J.R.; Ennis, W.B., Jr.; Fritz, G.J.; Gallaher, R.N.; Garrard, L.A.; Gascho, G.J.; Gaskins, M.H.; Goddard, R.E.; Green, V.E., Jr.; Haller, W.T.; Hinson, K.; Hollis, C.A.; Horner, E.S.; Jones, D.W.; Kretschmer, A.E., Jr.; leGrand, F.; Lyrene, P; McCloud, D.E.; Mislevy, P; Mott, G.O.; Mullen, R.E.; Norden, A.J.; Ocumpaugh, W.R.; Pfahler, P.L.; Popenoe, H.L.; Prine, G.M.; Quesenberry, K.H.; Rodgers, E.G.; Ruelke, O.C.; Schank, S.C.; Schroder, V.N.; Smith, R.L.; Sutton, D.L.; Teem, D.H.; Warmke, H.E.; West, S.H.; Whitty, E.B.; Wilcox, M.

AGR 3210 (AY 311) Field Crop Science. F.
Credits: 4
Fundamentals of adaptation, improvement, production, and utilization of major field crops.

AGR 3303 (AY 362) Genetics. F, W. SS.
Credits: 4; Prereq: BTY 181 or ZY 201-202.
The science and physical basis of inheritance, genes as units of heredity and development, and the qualitative and quantitative aspects of genetic variation.

AGR 3305 L (AY 363) Genetics Latoratory. F, W, SS.
Credits: 1; Prereq: or coreq.: AY 362
Laboratory methods in the application of genetic principles with breeding experiments to illustrate the laws of inheritance. Not essential with AY 362.

AGR 4941 (AY 400) Work Experience in Agronomy. F, W, S, SS.
Credits: 1 to 4; S-U Grade only. Prereq.: Prior arrangement with adviser and approval of Department Chairman and Dean.

AGR 4242 (AY 405) Rice.
Credits: 5; Prereq: AY 311 and BTY 310, or equivalent.
Characteristics, production practices, pest control, physiological development, processing, and utilization of world rice crop.

AGR 4244 (AY 409) Sugarcane.
Credits: 4; Prereq: AY 311 and BTY 310.
Morphology and anatomy of sugarcane. Role of plant nutrients and cultural practices. Diagnostic techniques. Principal diseases and pests affecting yield.

AGR 4246 (AY 413) Oilseed Crops.
Credits: 4; Prereq: AY 311, BTY 370, or equivalent.
Economically important oilseed plants, with emphasis on characteristics, production practices, physiological and biochemical development, processing, and utilization.

AGR 4001 C (AY 414) Man's Major Food-Crop Resources. F.
Credits: 4; Prereq: A basic course in agriculture, biological sciences, or natural resources.
World population, land resources, and agricultural ecosystems with environmental consequences. Crop climatology, crop adaptation, and geography. Present and projected levels of food population in the developed and developing countries.

AGR 4248 (AY 415) Fiber Crops
Credits: 4; Prereq: AY 311, BTY 310, or equivalent.
Characteristics, production practices, physiological development, processing, and utilization of plant fibers having commercial importance in their natural or modified form.

AGR 4231 (AY 432) Forage and Pasture Science. W, S.
Credits: 5
Scientific and technological developments in the selection, production, and utilization of forage crops, and in the development and management of grazing areas.

AGR 4321 (AY 465) Plant Breeding. W.
Credits: 4; Prereq: AY 362 and BTY 180
The science and technology of plant improvement.

AGR 4931 (AY 484) Agronomy Seminar. F, S.
Credits: 1
Preparation, presentation, discussion of latest Agronomic advances. Required of all students majoring in Agronomy.

AGR 4906 (AY 496) Problems in Agronomy. F, W, S, SS.
Credits: 1 to 3. Maximum 6; Prereq: Minimum of one course in Agronomy and consent of instructor.
Scientific study of individual problems in crop production, weed science, genetics, or plant breeding.

††Grading is on a S-U basis only.

GRADUATE COURSES

AGR 6661 C (AY 611) Sugarcane Processing Technology. W.
Credits: 4

AGR 6233 (AY 636) Tropical Pasture and Forage Science. F.
Credits: 5

AGR 6422 (AY 641) Crop Nutrition. S.
Credits: 4

AGR 6751 (AY 642) Biochemistry of Herbicides. S. (Even years).
Credits: 3

AGR 6442 (AY 644) Physiology of Agronomic Plants. W.
Credits: 4

AGR 6511 (AY 646) Crop Ecology. S.
Credits: 5

AGR 6249 (AY 647) Crop Plants in Tropical Environments.
Credits: 12

AGR 6311 (AY 658) Population Genetics. F. (Odd years).
Credits: 3

AGR 6353 (AY 660) Cytogenetics. W. (Even years).
Credits: 5

AGR 6307 (AY 662) Advanced Genetics. W. (Odd years).
Credits: 4

AGR 6390 (AY 664) Topics in Genetics.
Credits: 2 to 4

AGR 6323 (AY 665) Advanced Plant Breeding. S.
Credits: 4

AGR 6380 (AY 682) Genetics Seminar. W.
Credits: 1

AGR 6933 (AY 684) Graduate Agronomy Seminar. F, W, S.
Credits: 1

AGR 6932 (AY 688) Topics in Agronomy.
Credits: 2 to 4.

AGR 6907 (AY 696) Agronomic Problems. F, W, S, SS.
Credits: 1 to 6.

AGR 6911 (AY 697) Supervised Research. F, W, S, SS.
Credits: 1 to 5††

AGR 6942 (AY 698) Supervised Teaching. F, W, S, SS.
Credits: 1 to 5††

AGR 6971 (AY 699) Master's Research. F, W, S, SS.
Credits: 1 to 15††

AGR 7980 (AY 799) Doctoral Research. F, W, S, SS.
Credits: 1 to 15††

AMERICAN STUDIES
College of Arts and Sciences

MAJOR COMMITTEE 1976-77
Conroy, S.S.; Chairman; Chalmers, D.M.; Foreman, R.C.; Hill, S.; Thompson, I.; Turner, E.R.; Williams, D.E.

Majors will be required to take at least fifty hours of acceptable courses — half of which must be numbered 300 or above — including the required American Studies courses, and to take a sequence of courses reflecting the temporal span of American civilization. No more than twenty-four hours from the Humanities or the Social Sciences and no more than four courses from one discipline may be submitted.

The acceptable courses include APY 200, 405, 407, 434, 435, 437, 438; ART 324, 429, 430; ASC 201, 453, 454; ES 211, 414, 415, 499; EDF 300, 410; EH 271, 272, 309, 345, 346, 371, 372, 471, 473, 474; GPY 305, 381; HY 245, 246, 348, 349, 350, 352, 353, 354, 355, 440, 441, 442, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459; MSC 412, 417; PPY 318, 427; PCL 201, 220, 221, 310, 311, 319, 321, 329, 333, 335, 401, 402, 403, 412, 419, 436, 465; RN 326, 357, 358, 374, 454, 458; SY 201, 202, 320, 322, 380, 391, 432, 483; SCH 410. Students seeking advisement should contact Professor Stephen Conroy in Room 219, Building D.

Honors will be awarded to any student who earns a grade point average of 3.5 or higher in upper division and major work and completes an individual project in AMS 455 of honors caliber.

AMS 2030 (AMS 200) Introduction to American Studies. F, W, S.
Credits: 4
An introduction to the problems, themes and methods of American Studies. Concepts such as national character and popular culture are examined, and unifying myths and symbols such as the frontier are used to illustrate the ways in which American civilization as a whole may be approached.

AMH 3315 (AMS 355) American Popular Culture to 1970. W, SS.
Credits: 4; [Ident with HY 355].
A survey of the interests and amusements of the common man in the United States from the camp meeting to the rock festival, from the tent show to the television program.

AMH 4041 (AMS 454) Studies in American Civilization. F, W.
Credits: 4; [Ident with HY 454].
Examination of selected periods of U.S. history using concepts and data from several related disciplines. Required for the American Studies Program. May be repeated with a change of content up to a maximum of 8 credits.

AMH 4935 (AMS 455) Senior Seminar in American Civilization. S.
Credits: 4; [Ident with HY 455].
A continuation of AMS 454 with emphasis on individual projects. May be repeated with a change of content up to a maximum of 8 credits.

AMS 4905 (AMS 496) Individual Study. F, W, S, SS.
Credits: 1 to 5.
Individual interdisciplinary projects in American Studies. May be repeated with a change of content up to a maximum of 10 credits.

ANIMAL SCIENCE
College of Agriculture

INSTRUCTIONAL STAFF 1976-77
Wallace, H.D., Chairman; Ammerman, C.B.; Arrington, L.R.; Asquith, R.L.; Bazer, F.W.; Carpenter, J.W.; Combs, G.E. Jr.; Copelin, J.L.; Davis, G.K.; Feaster, J.P.; Fields, M.J.; Hargrove, D.D.; Hentges, J.F., Jr.; Koger, M.; Lieb, S.; Loggins, P.E.; Moore, J.E.; Ott, E.A.; Palmer, A.Z.; Sharpe, D.C.; Shirley, R.L.; Wakeman, D.L.; Warnick, A.C.; West, R.L.

ANS 2002 (AL 201) The Meat We Eat, F, W, S.
Credits: 2
Only open to students not majoring in Animal Science. Consumer oriented. Meat as a food, its inspection for wholesomeness, meat grading, indentification, processing, selection, preparation and serving. Preparation of economical, nutritious and palatable meals centered around meat will be emphasized.

ANS 3007 (AL 309) General Animal Science. S.
Credits: 4
A terminal course open only to students not majoring in Animal Science. Principles of livestock production.

ANS 3031 C (AL 332) Introductory Laboratory Animal Science. F, S.
Credits: 4
Survey of the production and use of various laboratory animal species in research. Characteristics of species, breeding, housing, feeding and general procedures for handling laboratory animals.

ANS 3236 (AL 334) Horse Production. S, SS.
Credits: 4
Basic and applied principles of Horse Production.

ANS 3079 (AL 340) Relationship of Form to Function in Horses. F.
Credits: 1; Prereq. AL 334 or AL 434 or Consent of Instructor.
Principles of conformation and anatomy affecting the performance of the horse and essentials of animal selection.

ANS 4941 (AL 400) Full-time Practical Work Experience in Animal Science. F, W, S, SS.
Credits: 1 to 4; S-U grade only; Prereq: Prior arrangement with adviser, approval of Department Chairman and Dean. Credit will be earned on the basis of one hour per month of employment.

ANS 4244 (AL 411) Beef Cattle Science. F, S.
Credits: 5; Prereq: ADP 314, ADP 315, ADP 322, FRE 310 and AY 432 or permission of the instructor.
Application of basic scientific principles in the planning and management of all types of beef cattle enterprises.

ANS 4264 (AL 413) Swine Production. W.
Credits: 3; Prereq: ADP 314 and ADP 315.
Selection, feeding and management of hogs; forage crops and grazing, disease and parasite control.

ANS 4274 (AL 414) Sheep Production. W, SS.
Credits: 2; Prereq: ADP 314, ADP 315 and ADP 322.
Sheep production and management in Florida and the United States, marketing and wool grading.

ANS 4634 C (AL 415) Meats. F, SS
Credits: 4
Slaughtering, cutting and quality of meat as related to production programs with livestock.

ANS 4614 (AL 423) Livestock and Meat Evaluation. W.
Credits: 3; Prereq: ADP 311
Classifying, grading, and judging carcasses; grading and evaluation of feeder and slaughter animals.

ANS 4615 (AL 429) Meat Selection and Grading. F, W, S.
Credits: 1. Maximum 3 credits.
Fundamentals in grading and classifying carcasses and cuts of meat from beef, pork and lamb. Includes field trips to packing plants and exercises in practical grading and selection.

ANS 4224 L (AL 430) Laboratory Animals Colony Management. S.
Credits: 4; Prereq: AL 332, VY 405 or permission of the instructor.
Theory and practice in management of laboratory animals in research; technical and practical operation of a laboratory animal facility.

††Grading is on a S-U basis only.

ANS 4403 (AL 431) Nutrition and Feeding of Laboratory Animals. S.
Credits: 3; Prereq: AL 332, ADP 314 and ADP 315 or permission of the instructor.
Basic principles of nutrition as applied to laboratory animals, nutrients requirements, experimental and routine feeding of laboratory animals.

ANS 4406 L (AL 432) Laboratory for Nutrition of Laboratory Animals. S.
Credits: 1; Prereq. or Coreq: AL 431 or AL 527.
Preparation of experimental diets including purified diets, feeding experiments with laboratory animals, feed analysis.

ANS 4234 C (AL 434) Horse Enterprise Management. W.
Credits: 4; Prereq: ADP 314, ADP 315, ADP 322 and VY 321 or permission of the instructor.
Management principles essential to the planning and operation of commercial Horse Enterprise.

ANS 4238 (AL 440) Horse Psychology and Training. F.
Credits: 2; Prereq. AL 334 or AL 434 or consent of Instructor.
Basic principles and skills in the use of psychology and training techniques for breaking the young horse.

ANS 4635 (AL 451) Meat Processing. S.
Credits: 4; (Ident. with FS 451; Prereq.: CY 202 and MS 102.
Methods used for processing and the Federal and State regulations for meat.

GRADUATE COURSES

ANS 5446 (AL 527) Animal Nutrition. F.
Credits: 5; Prereq.: ADP 314, ADP 315, BTY 370 or permission of instructor.

ANS 6932 (AL 601) Topics in Animal Science.
Credits: 4

ANS 6368 (AL 602) Quantitative Genetics.
Credits: 5

ANS 6636 (AL 604) Meat Technology.
Credits: 4

ANS 6288 (AL 605) Experimental Technics and Analytical Procedures in Meat Research.
Credits: 4

ANS 6751 (AL 607) Physiology of Reproduction.
Credits: 5

ANS 6458 (AL 650) Advanced Methods in Nutrition Technology.
Credits: 4

ANS 6448 (AL 651) Advanced Animal Nutrition.
Credits: 4

ANS 6448 L (AL 652) Advanced Animal Nutrition Laboratory.
Credits: 3

ANS 6472 (AL 653) Vitamins.
Credits: 4

ANS 6472 L (AL 654) Laboratory in Vitamins.
Credits: 2

ANS 6723 (AL 655) Mineral Nutrition and Metabolism.
Credits: 4

ANS 6715 (AL 656) Ruminant Physiology and Metabolism.
Credits: 3

ANS 6721 (AL 657) Non-Ruminant Metabolism.
Credits: 3

ANS 6711 (AL 658) Equine Nutrition and Physiology.
Credits: 3

ANS 6388 (AL 659) Genetics of Animal Improvement.
Credits: 4

ANS 6933 (AL 660) Graduate Seminar in Animal Science.
Credits: 1††

AGR 6930 (AL 664) Topics in Genetics.
Credits: 2 to 4

ANS 6906 (AL 696) Problems in Animal Sciences.
Credits: 1 to 6.

ANS 6911 (AL 697) Supervised Research.
Credits: 1 to 5††

ANS 6942 (AL 698) Supervised Teaching.
Credits: 1 to 5††

ANS 6971 (AL 699) Master's Research
Credits: 1 to 15††

ANS 7980 (AL 799) Doctoral Research.
Credits: 1 to 15††

ANIMAL SCIENCES-GENERAL
College of Agriculture

Cross Departmental Courses

Wallace, H.D., Chairman.
The three Departments of Animal, Poultry and Dairy Sciences have combined the following cross-departmental courses taught by the staff of the three Departments:

ASG 3003 (ADP 311) Introduction to Animal Science, F, W, S, SS.
Credits: 5
Market types and classes of livestock; breeds of livestock, dairy and poultry, and the fundamentals of Animal, Dairy and Poultry Science.

ASG 3403 (ADP 314) Principles of Animal Nutrition. F, W, S, SS.
Credits: 3; Prereq: CY 204 or BTY 370.
The nutrients required by animals,their functions, and the processes of their utilization.

ASG 3404 (ADP 315) Applied Animal Nutrition. F, W, S, SS.
Credits: 2; Prereq: ADP 314.

ASG 3313 (ADP 322) Principles of Animal breeding. W, S, SS.
Credits: 5; Prereq: AY 362.
The basic principles of breeding and genetics as applied to animals used for the production of food.

ASG 4334 (ADP 407) Reproduction in Farm Animals. W.
Credits: 4; Prereq: VY 321 or permission of instructor.
Principles of reproduction in avian and mamallian farm animals including factors related to the estrous cycle pregnancy, semen-production, artificial insemination, pregnancy diagnosis and environmental factors affecting reproduction.

ASG 4931 (ADP 421) Seminar. F, W, S, SS.
Credits: 1; Prereq: Senior classification.
Preparation and presentation of papers on an approved subject of major interest.

ASG 4992 (ADP 422) Livestock, Dairy and Poultry and Judging. F, W, S.
Credits: 1. Maximum 3 credits. Prereq: ADP 311.
Special Training in livestock and dairy judging and classification; judging poultry and poultry products.

ASG 4914 (ADP 496) Problems in Dairy, Poultry and Laboratory Animal Science. F, W, S, SS.
Credits: 1 to 4 variable. Maximum 9 credits. Prereq: Permission of instructor.
Open only to Dairy, Poultry and Laboratory Animal Science students. Qualified students may choose an approved problem concerning some phase of Dairy, Poultry or Laboratory Animal Science.

GRADUATE COURSES

ASG 5221 (ADP 535) Animal Production in the Tropics. F.
Credits: 4; Prereq: AL 411, AL 413, DY 301 or permission of instructor.

ANTHROPOLOGY
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77

Doughty, P.L. Chairman; Carter, W.E.; Dougherty, M.; du Toit, B.M.; Eddy, E.M.; Fairbanks, C.H.; Hardman-de-Bautista, M.J.; Kimball, S.T.; Kramer, S.; Lieberman, L.S.; Maples, W.R.; Margolis, M.L.; Markel, N.N.; Milanich, J.T.; Moore, G.A., Jr.; Murphree, A.H.; Nunez, T.A., Jr.; Oliver-Smith, A.; Purdy, B.P.; Rice, P.M.; Spring, A.; Taylor, C.E.; von Mering, O.O.; Wagley, C.W.; Wilkerson, S.J.K.; Wing, E.S.

An undergraduate departmental major must include APY 200, or APY 202, APY 300, APY 302 and APY 310. All undergraduates desiring a major in Anthropology should contact the department academic adviser soon after enrollment in the University. To be admitted to the major, a student must normally have a 2.5 overall and a 3.0 social science grade point average.

DEPARTMENTAL HONORS.

Departmental honors may be earned by students in the department who have at least a 3.0 GPA in their upper division courses, and 3.5 GPA in Anthropology courses, who, with the permission of the faculty undergraduate honors adviser, elect to take an advanced seminar, in a topical area of their choice. In a subsequent quarter the student must register for three hours of APY 499 (Departmental Major Honors). Under the direction of his honors adviser the student will write an honors essay on a topic suggested by the previous advanced course. The undergraduate honors adviser is appointed each year by the department chairman from the faculty.

ANT 2410 (APY 200) Cultural Anthropology. F, W, S, SS.
Credits: 5
The nature of culture. The content of cultures; languages, subsistence, economic structures, art and religion in human societies. The integration of culture.

ANT 2402 (APY 202) Anthropology and Modern Life. F, S.
Credits: 5
The anthropological perspective, theories, methods, applied to contemporary circumstances. The individual and the group, social groups, institutions, world view, cross-cultural perspectives, cultural transformations.

ANT 3100 (APY 300) Prehistory of Man. F, W, S, SS.
Credits: 5
Description of the archeological evidence for the evolution of man's culture from the earliest beginning to the dawn of recorded history. Analyzes causes of cultural development in the Old and New Worlds.

††Grading is on a S-U basis only.

Descriptions

ANTHROPOLOGY

ANT 3511 (APY 302) Physical Anthropology. F, W, S.
Credits: 5
The evolution of man and the formation of races. Relationship with other primates. Human genetics. Anthropometry. Racial differences, distribution and history. Laboratories in human and non-human primate anatomy and physiology.

(APY 310) Introduction to Language and Culture. F, S.
Credits: 5
Principles of linguistics, nature and origin of languages, linguistic analysis, linguistic and other fields, language and culture.

ANT 3241 (APY 370) Anthropology of Religion. S.
Credits: 5; (Ident. with RN 370.)
Cross cultural survey of beliefs and practices dealing with the supernatural. Magic and religion. Conceptualization of the supernatural. Sacred specialists, their functions and social position. Theories of comparative religion in the light of anthropological data.

ANT 3302 (APY 380) Sex roles: A cross-cultural perspective. F.
Credits: 4. Prereq.: APY 200, 202 or 5Y 201
Anthropological perspective on division of labor by sex in different world societies. Variation in sex roles in economic, religious, political domains. Socialization and life cycle.

ANT 4404 (APY 400) The Nature of Culture. SS.
Credits: 5
An advanced level introduction to theoretical Anthropology. The problems of universal functions. Pattern, structure and process. Models and cultural laws. Illustrative material from current ethnology. Recommended for majors.

ANT 4185 (APY 401) Principles of Archeology. S.
Credits: 5; Prereq: 8 hours of anthropology, including APY 300.
The viewpoint and methods of archeology, especially as applied to New World materials. The archeological survey. Methods and techniques of excavation. Systems of chronological analysis.

ANT 4426 (APY 404) Social Organization. F.
Credits: 5; Prereq: APY 200 or APY 202.
Property concepts, forms and complexes. Tribal patterns of government and social control.

ANT 4451 (APY 405) Racial and Cultural Minorities. W.
Credits: 5
A survey of racial and cultural minority group contacts, inter-group relations, conflicts, the nature of prejudice, and the problems of minority groups in the contemporary world. Examples will be taken from North and South America, Africa, and India.

ANT 4433 (APY 407) Culture and Personality. F.
Credits: 5; Prereq: APY 200 or 202 or senior standing.
The relationship between culture and personality. Benedict's, Malinowski's, and Mead's contributions, contemporary schools of thought up to and including studies of national character. Methods in culture and personality research.

ANT 4332 (APY 410) Contemporary Peoples of Latin Amercia. F.
Credits: 5; Prereq.: APY 200, APY 202, or APY 400.
An introduction to Latin American peoples. Native culture areas and high civilizations. Metropolitan Hispanic culture and cultural syncretism in selected and geographically varied nation-states, selected urban and peasant subcultures.

ANT 4476 (APY 417) Cultural Revitalization. W.
Credits: 5
Study and analysis of the background, structure, and aim of cultural movements described as messianic, Nativistic, cargo, etc.

ANT 4124 (APY 421) Field Sessions in Archeology. S.
Credits: 8; Prereq: 8 hours of anthropology, including APY 300.
Excavation and archeological sites, recording of data, laboratory handling and analysis of specimens, and study of the theoretical principles which underlie field methods and artifact analysis.

ANT 4273 (APY 425) Political Anthropology. W.
Credits: 4; Prereq: APY 200 or APY 202, or PCL 203 or PCL 207, or permission of the instructor.
The problem of identifying political behavior. Natural leadership in bands, tribes, and small groups. Acephalous societies and republican structures. Kingship and early despotic states. Theories of bureaucracy.

ANT 4442 (APY 434) Introduction to Urban Anthropology. F.
Credits: 4; Prereq.: APY 200.
A re-examination of basic concepts, models and theories dealing with the nature of the city. The approach is cross-cultural and interdisciplinary.

ANT 4304 (APY 435) Urban Ethnography. S.
Credits: 4; Prereq.: APY 200.
Problems of rural-urban migration. Crosscultural, interdisciplinary approach to the non-western city. Comparative ecology of cities.

ANT 4153 (APY 437) North American Archeology. F.
Credits: 5
The existing archeological materials relating to prehistoric North American cultures. The origins of the North American Indian. Historic Indian and colonial materials.

ANT 4312 (APY 438) The North American Indian. S
Credits: 5
The peopling of North America and Early Man in the New World. The culture areas of North America. Unique characteristics, institutions, and problems of the peoples.

ANT 4158 (APY 439) Prehistoric Peoples of Florida. W.
Credits: 5; Prereq.: APY 200 or APY 202.
Archeological evidence for the evolution of Indian cultures from 10,000 B.C. to historic period with emphasis on descriptions of regional cultures after 500 B.C. Cultural ecology of different environmental regions, archeological materials, external relationships to Southeast and Circum-Caribbean area.

ANT 4326 (APY 441) Native Peoples of Mexico, Central America. S.
Credits: 4
The settlement and early cultures of the area with an emphasis on the rise of the major culture centers. The impact of European civilization and surviving Indians.

ANT 4352 (APY 443) Africa: Traditional Peoples and Cultures. F.
Credits: 4.
An anthropological survey of the culture history and ethnographic background of the peoples of Africa. A basis for appreciation of current problems of acculturation, nationalism, and cultural survival and change among African peoples.

ANT 4255 (APY 450) Peasant Society and Culture. S.
Credits: 5; Prereq: APY 200, APY 202, or permission of instructor.
A comparative and historical study of peasantry. Unique characteristics, institutions, and problems of peasant life, stressing especially rural-urban relationships and emphasizing European and Latin American peasant populations.

ANT 4552 (APY 471) Primate Behavior. S.
Credits: 5; Prereq: APY 302 and permission of instructor.
Behavior and social organization of various non-human primates. Relationships to human cultural behavior.

ANT 4555 (APY 472) Introduction to Primatology. W.
Credits: 5; Prereq: APY 302.
The adaptive aspects of the physical features of man, apes, monkeys, and the promisians. A review of the taxonomy of primates.

ANT 4525 (APY 473) Human Osteology and Osteometry. F.
Credits: 5 Prereq: APY 302 and consent of instructor.
Human skeletal identification for the physical anthropologist and archeologist. Techniques for estimating age at death, race, and sex from human skeletal remains. The measurement of the human skeleton for comparative purposes.

ANT 4586 (APY 475) Human Evolution. S.
Credits: 4; Prereq: APY 302 and consent of Instructor.
The data, methods, and theoretical problems found in human evolution.

ANT 4403 (APY 480) Environment and Cultural Behavior. S.
Credits: 4; Prereq: APY 200.
The interaction of people and their environment as mediated by cultural institutions. Levels of socio-economic adaptation in hunting and gathering, pastoral, and agricultural societies. Warfare and ritual as ecological mechanisms.

ANT 4086 (APY 482.) Anthropological Theory. F.
Credits: 5; Prereq: 6 hours in Anthropology, including APY 200 or APY 202.
The history and development of anthropological theory. Methods in anthropological research. Directed reading of major theoretical publications.

ANT 4484 (APY 483.) Current Anthropological Theory. W.
Credits: 5; Prereq: APY 200, APY 202, APY 580 or permission of instructor.
Reading and discussion of current trends in anthropological liteature. Emphasis on problems of research. Directed reading in major current publications.

ANT 4930 (APY 490) Special Topics in Anthropology.
Credits: 3 to 5; Prereq.: Instructor's permission or 10 credits of work in Anthropology.
Rotating topics. With permission, may be repeated as topics change. Maximum of 10 credits.

ANT 4907 (APY 495.) Research Projects in Social, Cultural and Applied Anthropology.
Credits: 1 to 5; Prereq: Consent of instructor. May be repeated with change of content up to a maximum of 10 credits.
For students undertaking directed research in supplement to regular course work or on special problems.

ANT 4907 (APY 496.) Individual Work.
Credits: 1 to 5; Prereq: Consent of instructor. May be repeated to a maximum of 10 hours.

ANT 4914 (APY 498) Departmental Honors in Anthropology. F, W, S.
Credits: 3; Prereq: Consent of Undergraduate adviser.
Open to students meeting departmental honors criteria and normally taken in the Senior year. Students will develop special interests and write an essay based upon this research.

GRADUATE COURSES

ANT 5422 (APY 502) Kinship and Descent
Credits: 4

(APY 505) Principles of Anthropological Linguistics.
Credits: 5

(APY 506) Language and Culture.
Credits: 5

ANT 5466 (APY 510) Folk Medicine.
Credits: 4

(APY 511) Phonology.
Credits: 5

ANT 5263 (APY 512) Economic Anthropology.
Credits: 5

ANT 5246 (APY 513) Ritual and Symbolic Systems.
Credits: 5

ANT 5479 (APY 517) Cultural Dynamics.
Credits: 4

ANT 5477 (APY 518) Human Organization and Change
Credits: 5

ANT 5376 (APY 520) Regional Cultures of Oceania.
Credits: 4

ANT 5366 (APY 521) Peoples and Cultures of Southeast Asia.
Credits: 4

(APY 531) Laboratory Work in Anthropological Linguistics.
Credits: 1 to 5. Maximum 15 credits.

ANT 5338 (APY 540) The Tribal Peoples of Lowland South America.
Credits: 4

ANT 5336 (APY 542) The Peoples of Brazil.
Credits: 4

ANT 5337 (APY 543) Peoples of the Andes.
Credits: 4

ANT 5354 (APY 544) The Anthropology of Modern Africa.
Credits: 4

ANT 5346 (APY 545) Caribbean Culture Patterns.
Credits: 4

ANT 5546 (APY 550) Seminar: Biological Basis of Social Behavior. F.
Credits: 4

ANT 5485 (APY 563) Methodological Foundation for Anthropology.
Credits: 4

ANT 5486 (APY 564) Quantitative Methods for Anthropology.
Credits: 4

ANT 5195 (APY 574) Zoorarchaeology.
Credits: 4

(APY 579) Introduction to Linguistic Field Methods.
Credits: 5

ANT 5507 (APY 585) Bio-Behavioral Perspectives on Human Character Structure.
Credits: 5

(APY 588) Culture and Nutrition.
Credits: 5

(APY 589) Anthropological Genetics.
Credits: 4

ANT 5717 (APY 590) The Culture of Planned Social Systems.
Credits: 4

(APY 595) Nonverbal Communication.
Credits: 5

ANT 6917 (APY 600) The Profession of Anthropology.
Credits: 2

ANT 6038 (APY 601) Seminar in Anthropological History and Theory.
Credits: 4

ANT 6408 (APY 602) Principles of Cultural Anthropology.
Credits: 5

ANT 6276 (APY 604) Principles of Political Anthropology.
Credits: 5

ANT 6434 (APY 608) Psychological Anthropology.
Credits: 5

ANT 6429 (APY 609) Cultural Pluralism.
Credits: 4

ANT 6737 (APY 610) Medical Anthropology.
Credits: 5

ANT 6188 (APY 611) Advanced Archeological Field Methods.
Credits: 9

ANT 6388 (APY 612) Ethnographic Field Methods.
Credits: 5

ANT 6716 (APY 615) Problems of National Integration in Latin America.
Credits: 5

ANT 6445 (APY 616) African Urbanization.
Credits: 5

ANT 6735 (APY 617) Seminar in Cross-Cultural Epidemiology.
Credits: 5

ANT 6718 (APY 620) Directed Culture Change in Latin America.
Credits: 5

ANT 6186 (APY 621) Seminar in Archeology.
Credits: 5

ANT 6286 (APY 622) Seminar in Ethnology.
Credits: 5

ANT 6588 (APY 623) Seminar in Physical Anthropology.
Credits: 5

(APY 624) Seminar in Linguistic Field Methods.
Credits: 5

ANT 6356 (APY 625) Man and Culture in Southern Africa.
Credits: 5

(APY 626) Seminar in Language and Culture.
Credits: 5

ANT 6387 (APY 640) Seminar on the Anthropology of Latin America.
Credits: 5

ANT 6487 (APY 645) Evolution of Culture.
Credits: 5

ANT 6547 (APY 650) Human Adaptation.
Credits: 5

ANT 6707 (APY 660) Seminar on Applied Anthropology.
Credits: 5

ANT 6728 (APY 661) Anthropology and Education.
Credits: 5

ANT 6725 (APY 662) Culture and Learning.
Credits: 5

(APY 666) Historical Ecology of the Pleistocene.
Credits: 4. (Ident. with BTY 666, GY 666, ZY 666).

ANT 6428 (APY 667) Culture and Community.
Credits: 5

ANT 6447 (APY 668) Seminar in Structure and Process in the Urban Environment.
Credits: 5

ANT 6478 (APY 670) Comparative Structure and Process of Natural Groups.
Credits: 5

ANT 6489 (APY 675) Pattern, Structure and Process.
Credits: 5

ANT 6933 (APY 690) Special Topics in Anthropology.
Credits: 5. Maximum 15 credits.

ANT 6915 (APY 695) Research Projects in Social, Cultural and Applied Anthropology.
Credits: 1 to 5

ANT 6908 (APY 696) Individual Work.
Credits: 1 to 5. Maximum 15 credits.

ANT 6918 (APY 697) Supervised Research.
Credits: 1 to 5.††

ANT 6946 (APY 698) Supervised Teaching.
Credits: 1 to 5.††

ANT 6971 (APY 699) Master's Research.
Credits: 1 to 15.††

ANT 7980 (APY 799) Doctoral Research.
Credits: 1 to 15.††

ARCHITECTURE

College of Architecture

INSTRUCTIONAL STAFF 1976-77

Butt, A.F., Chairman; Alexander, J.F., Crain, E.E.; Dasta, A.J.; Davis, A.J.; Fearney, E.M.; Foster, M.T.; Hamacher, B.H.; Hawkinson, L.J.; Jaroszewicz, M.T.; Kemp, H.W.; Kinzey, B.Y.; Lisle, F.F., Jr.; Lo, C.N.; McRae, J.M.; Merritt, H.C. Jr.; Morgan, C.F.; Morse, R.H.; Prugh, P.E.; Reeves, F.B.; Ridgdill, G.; Sanders, L.W.; Scheffer, G.; Shaw, L.G.; Solis, M.M.; Stoeckel, J.E.; Tillman, W.J.; Voichysonk, B.F.; Wiedegreen, E.A.; Winarsky, I.H.; Wisley, P.P.; Yager, G.A.

ARC 1115 C (AE 112) Basic Drawing. F, W, S, SS.
Credits: 4
Exercises to develop the student's skills in perception and freehand drawing.

ARC 1126 C (AE 113) Architectural Drawing 1. F, W, S, SS.
Credits: 4
Exercises in instrumental drawing with architectural emphasis and perspective construction.

ARC 1131 C (AE 115) Architectural Communications. F, W, S, SS.
Credits: 4; Prereq.: ARC 1115, ARC 1126
A survey of multi-media communication techniques for developing explanatory vocabulary, both verbal and visual. Process-oriented exercises in the graphic simulation of spaces.

ARC 1211 (AE 121) The Building Arts. F, W.
Credits: 3
A survey of the building arts, with emphasis on the social and physical factors that influence them.

ARC 2311 C (AE 235) Architectural Design 1. F, W.
Credits: 4; Prereq.: ARC 1131
Basic studies in perception of the components of architecture.

ARC 2313 C (AE 236) Architectural Design 2. W, S.
Credits: 4; Prereq.: ARC 2311
Basic studies in perception of the components of architecture. Continuation ARC 2311.

ARC 2461 (AE 245) Materials and Methods of Construction 1. F, S.
Credits: 4; Prereq.: ARC 1126 and ARC 2311
Basic construction terminology; evaluation and selection of building materials in accordance with their functions.

††Grading is on a S-U basis only.

Descriptions

ARCHITECTURE

ARC 2500 (AE 255) Architectural Structures 1. W, S.
Credits: 4; Prereq: MAC 2223, PHY 2004, 2005
A vocabulary course to prepare the student for making structural decisions in architecture and to begin to develop a structural sense important to architectural solutions.

ARC 3320 C (AE 333) Architectural Design 3. F, S.
Credits: 4; Prereq: ARC 2313. Coreq: ARC 3681
Studies in developing basic architectural space.

ARC 3321 C (AE 335) Architectural Design 4. W, S.
Credits: 4; Prereq.: ARC 3321
Problem solving of architectural design emphasizing creative analysis of various components, both as isolated elements and as they relate to the entire scope of design.

ARC 3463C (AE 346) Materials and Methods of Construction 2. W, S.
Credits: 4; Prereq: ARC 2461
Building codes and construction decisions; relating of building materials to each other in construction sub-assemblies.

ARC 3581 C (AE 355) Architectural Structures 2. F, S.
Credits: 4; Prereq: (AE 255)
Elements of wood and steel systems in Architectural Structures.

ARC 3551 C (AE 356) Architectural Structures 3. W, F.
Credits: 4; Prereq: ARC 3581
Continuity in Architectural Structures, elements of Reinforced Concrete and prestressed concrete design in Architecture.

ARC 3681 C (AE 364) Environmental Technology 1. F, S.
Credits: 4; Prereq: PHY 2004, 2005. Coreq: ARC 3321.
Fundamentals of architectural lighting and acoustics.

ARC 3631 C (AE 366) Environmental Technology 2. F, W.
Credits: 4; Prereq: PHY 2004, 2005.
Principles and practices relating to the control of the thermal and atmospheric environment in buildings.

ARC 3711 (AE 375) Survey of Architectural History 1. F, W.
Credits: 4
A general survey of social, political, and cultural factors which have generated art and architecture of the following civilizations: Egyptian, Mesopotamian, Greek, Roman, Early Christian, Romanesque, and Gothic.

ARC 3330 C (AE 385) Site Analysis. F, W.
Credits: 4; Prereq: MAC 2223, ARC 1126.
Survey and development of building sites.

ARC 3291 C (AE 396) Special Studies in Architecture. F, W, S, SS.
Credits: 2 to 4; Prereq: Completion of lower division program in Architecture, or equivalent, and recommendation of advisor.
Special studies in Architecture adjusted to individual needs of undergraduate students. Student may repeat for a maximum of 8 credits.

ARC 4322 C (AE 435) Architectural Design V. F, S.
Credits: 4; Prereq: ARC 3322.
Problem solving in architectural design emphasizing analysis of various components, both as isolated elements and as they relate to the entire scope of creative design.

ARC 4323 C (AE 436) Architectural Design VI. W, S.
Credits: 4; Prereq: ARC 4323.
Problem solving in architecture emphasizing synthesis of design elements into complete systems of environment.

ARC 4475 C (AE 442) Applied Design Connections. F, W.
Credits: 4; Prereq: ARC 3462.
Application of the architectural design process to the assemblage and detailing of a small-scale building.

ARC 4464 C (AE 445) Materials and Methods of Construction III. F, W.
Credits: 4; Prereq.: ARC 3462, 3631, and 3551.
Continuation of ARC 3462 with emphasis on the large scale decisions in building construction and relationships to structural and equipment systems, and other aspects of total building design.

ARC 4561 C (AE 456) Architectural Structures IV. F, S.
Credits: 4; Prereq: ARC 3551.
Selected problems in structural systems in architecture.

ARC 4274 (AE 465) Professional Administration, Specifications and Estimating. W, S.
Credits: 4; Prereq: ARC 4474, 4463.
The ethical, legal and administrative responsibilities of the architect. Techniques of practice and architectural services, including specification writing and determination of economic feasibility.

ARC 4682 C (AE 467) Environmental Technology III, F, S.
Credits: 4; Prereq: PHY 2004, 2005.
Principals and practices of sanitation, power, communication and transportation in buildings.

ARC 4731 (AE 475) Survey of Architectural History 2. F, S.
Credits: 4; Prereq: ARC 3711.
Continuation of a general survey of social, political, and cultural factors which have generated art and architecture of the Renaissance and Baroque periods.

ARC 4741 (AE 476) Survey of Architectural History 3. W, S.
Credits: 4; Prereq.: ARC 4731.
Continuation of the general survey of social, political, and cultural factors which have generated arf and architecture of the 19th and 20th centuries.

GRADUATE COURSES

ARC 5535 (AE 552) — Architectural Structures - Advanced Studies
Credits: 5

ARC 5641 (AE 561) — Architectural Acoustics
Credits: 4

ARC 5791 (AE 571) — Problems in Architectural History
Credits: 4

ARC 5792 (AE 572) — Studies in Architectural Theory
Credits: 4

ARC 5800 (AE 581) — Survey of Architectural Preservation, Restoration, and Reconstruction
Credits: 4

ARC 5810 (AE 582) — Techniques of Architectural Documentation
Credits: 4

ARC 5890 (AE 583) — Historic Preservation and Restoration: Interiors
Credits: 4

ARC 5891 (AE 584) — Historic Preservation and Restoration: Landscape Architecture
Credits: 4

ARC 6090 (AE 601) — Graduate Seminar
Credits: 3 to 9

ARC 6911 (AE 621) — Architectural Research I
Credits: 1 to 9

ARC 6912 (AE 622) — Architectural Research II
Credits: 1 to 9

ARC 6913 (AE 623) — Architectural Research III
Credits: 1 to 9

ARC 6275 (AE 628) —Professional Practice
Credits: 2

ARC 6265 (AE 629) — Terminal Project
Credits: 1 to 15

ARC 6345 (AE 631) — Architectural Design I
Credits: 5

ARC 6346 (AE 632) — Architectural Design II
Credits: 8

ARC 6347 (AE 633) — Architectural Design III
Credits: 8

ARC 6355 (AE 634) — Architectural Design IV
Credits: 8

ARC 6356 (AE 635) — Architectural Design V
Credits: 8

ARC 6541 (AE 651) — Advanced Architectural Structures I
Credits: 4

ARC 6552 (AE 652) — Advanced Architectural Structures II
Credits: 4

ARC 6555 (AE 653) — Advanced Architectural Structures III
Credits: 6

ARC 6565 (AE 654) — Advanced Architectural Structures IV
Credits: 4

ARC 6566 (AE 655) — Advanced Architectural Structures V
Credits: 6

ARC 6571 (AE 656) — Advanced Architectural Structures VI
Credits: 4

ARC 6521 (AE 657) — Advanced Architectural Structures VII
Credits: 4

ARC 6591 (AE 658) — Advanced Architectural Structures VIII
Credits: 4

ARC 6952 (AE 659) — Advanced Architectural Structures IX
Credits: 4

ARC 6642 (AE 660) — Environmental Systems Design Laboratory I
Credits: 4

ARC 6643 (AE 661) — Environmental Systems Design I
Credits: 4

ARC 6684 (AE 662) — Environmental Systems Design Laboratory II
Credits: 4

ARC 6685 (AE 663) — Environmental Systems Design II
Credits: 4

ARC 6632 (AE 664) — Environmental Systems Design Laboratory III
Credits: 4

ARC 6633 (AE 665) — Environmental Systems Design III
Credits: 4

ARC 6651 (AE 666) — Environmental Systems Design Laboratory IV
Credits: 4

ARC 6652 (AE 667) — Environmental Systems Design IV
Credits: 4

ARC 6691 (AE 668) — Environmental Systems Design Laboratory V
Credits: 4

ARC 6692 (AE 669) — Environmental Systems Design Laboratory VI
Credits: 4

ARC 6713 (AE 671) — Architectural History I
Credits: 5

ARC 6735 (AE 672) — Architectural History II
Credits: 5

ARC 6742 (AE 673) — Architectural History III
Credits: 5

ARC 6761 (AE 674) — Architectural History: Area Concentration
Credits: 5; 15 Max.

ARC 6750 (AE 675) —Architectural History: American I.
Credits: 5

ARC 6751 (AE 676) —Architectural History: American II.
Credits: 5

ARC 6771 (AE 677) — Architectural History: Literature and Criticism
Credits: 5; 15 Max.

ARC 6793 (AE 678) — Architectural History: Regional.
Credits: 5

ARC 6851 (AE 681) — Technology of Restoration: Materials and Methods I.
Credits: 4

ARC 6852 (AE 682) — Technology of Restoration: Materials and Methods II.
Credits: 4

ARC 6853 (AE 683) — Technology of Restoration: Problems and Processes
Credits: 4

ARC 6854 (AE 684) — Technology of Preservation: Programming and Design I.
Credits: 4

ARC 6855 (AE 685) — Technology of Preservation: Programming and Design II.
Credits: 4

ARC 6860 (AE 686) — Techniques of Presevation: Legal and Economic Processes.
Credits: 4

ARC 6910 (AE 697) — Supervised Research
Credits: 1 to 5††

ARC 6940 (AE 698) — Supervised Teaching
Credits: 1 to 5††

ARC 6971 (AE 699) — Master's Research
Credits: 1 to 15††

ART
College of Fine Arts

INSTRUCTIONAL STAFF 1976-77
Grissom, E.E., Chairman; Craven, R.C.; Holbrook, H.H.; Isaacson, M.J.; Kerslake, K.A.; Kremgold, D.A.; Naylor, J.G.; Nichelson, J.C.; Novak, J.A.; O'Connor, J.A.; O'Connor, M.A.; Ruiz, N.C.; Skelley, R.C.; Uelsmann, J.N.; Walker, H.T.; Walton, S.S.; Ward, J.L.; Ward, P.A.; Williams, H.D.; Yurgilas, K.L.

ART 1201 C (ART 101) Beginning Design 1. F, S, SS.
Credits: 3
Fundamental principles of visual organization. Emphasis upon two-dimensional design in black and white. Students who intend to major in art should schedule ART 101 and 103 concurrently.

ART 1203 C (ART 102) Beginning Design 2. W, SS.
Credits: 3; Prereq: ART 101.
Continuation of ART 101. Emphasis upon design in three dimensions. Projects in construction, modeling and carving in a variety of materials.

ART 1300 C (ART 103) Beginning Drawing 1. F, S, SS.
Credits: 3
Drawing as a means of formal organization. Exploration of the drawing media through stillife, figure and landscape.

ART 1301 C (ART 104) Beginning Drawing 2. W, SS.
Credits: 3; Prereq: ART 103
Continuation of ART 103. Emphasis upon spatial description — use of the figure.

ART 2205 C (ART 205) Intermediate Design. F, W, S, SS.
Credits: 3; Prereq: ART 101-102.
Continuation of ART 101-102. Emphasis upon color theory, and upon the use of color in design.

ART 2302 C (ART 206) Intermediate Drawing and Painting. F, W, S, SS.
Credits: 3; Prereq: ART 104-205.
Continuation of ART 103-104. Pictorial form. Relationship of subject to pictorial form and content. Paintings in various media.

ARH 2050 (ART 207) Introduction to the Principles and History of Art 1. F, SS.
Credits: 3
Principles of art. Relation of styles to cultural context. Ancient and Medieval art and architecture.

ARH 2051 (ART 208) Introduction to the Principles and History of Art 2. W.
Credits: 3; ART 207.
Continuation of ART 207. Art and architecture through the late Medieval period through Rococo.

ARH 2052 (ART 209) Introduction to the Principles and History of Art 3. S.
Credits: 3; Prereq.: ART 207-208
Continuation of ART 207-208. 19th and 20th century art to the present day. The visual arts in contemporary society.

ART 2500 C (ART 210) Studio for Non-Majors. F, W, S, SS.
Credits: 2; No Prerequisites.
An introductory studio course for the non-profession student who does not intend to major in art. Emphasis upon creative expression rather than technical proficiency. Not available for credit toward a major in art. This course may be repeated with change in content up to a maximum of 4 credits. This course may be taken on the S-U option.

ART 2280 C (ART 260) Lettering. F, W, S, SS.
Credits: 4; Prereq.: ART 101-205.
Principles of design and use of letter forms. Study of historic designs and styles. Development of skills and execution.

ART 2110 C (ART 280) Beginning Ceramics. F, W, S, SS.
Credits: 4; Prereq.: ART 101-102
Basic concepts of ceramic design. Experience in processes of forming, decorating, glazing and firing pottery.

ART 3830 (ART 303) Methods and Materials of the Artist. S, SS.
Credits: 4; Prereq: ART 206.
The physical properties of the artist's materials and the history of their use. Traditional experimental materials and techniques.

ARH 3800 (ART 309) Criticism of Art. W.
Credits: 4; Prereq: ART 207-208-209.
Review of principle theories in the history of criticism. Analysis and evaluation of work of art. Problems in the criticism of contemporary art.

ARH 3500 (ART 314) Arts of Africa and Oceania. W, S.
Credits: 4; Prereq.: ART 207-208-209
An introduction to the visual arts of Africa and Oceania. The focus of the course will be on either area. The course may be repeated with a change of content.

ARH 3130 (ART 316) Greek Art. F.
Credits: 4; Prereq: ART 207-208-209
The art and architecture of ancient Crete and Greece.

ARH 3171 (ART 317) Roman and Early Christian Art. W.
Credits: 4; Prereq: Art 207-316.
The art and architecture of the Italian peninsula. Etruscan through the Roman Empire — early Christian and Byzantine art.

ARH 3200 (ART 318) Medieval Art. S.
Credits: 4; Prereq: ART 207-208-317.
The art and architecture of Europe and the Mediterranean region from approximately the fourth to the fourteenth centuries A.D.

ARH 3541 (ART 321) The Art of India 1. S.
Credits: 4; Prereq: ART 207-208-209.
A survey of the development of sculpture and architecture in India from the Indus Valley epoch through the Medieval period.

ARH 3542 (ART 322) The Art of India II. S.
Credits: 4; Prereq: ART 207-208-209.
A survey of the development of painting in India from ancient times up to the contemporary period.

ARH 3530 (ART 323) Oriental Art. W, SS.
Credits: 4; Prereq: ART 207-208-209.
The visual arts in Oriental civilizations. This course may be repeated with change of content.

ARH 3610 (ART 324) American Art. SS.
Credits: 4; Prereq: ART 207-208-209.
Painting and sculpture in the United States from the middle of the 18th century through 1913.

ARH 3650 (ART 325) Latin American Art. W, SS.
Credits: 4; Prereq: Art 207-208-209.
A survey of pre-Columbian art in Mexico, Central America and South America.

(ART 327) Arts of Black Africa. S.
Credits: 4; Prereq: ART 207-208-209
Survey of traditional visual arts of Black Africa offered in three separate courses: (1) Arts of Western Sudan and Guinea Coast; (2) Arts of the Niger Delta, Equatorial Forest and related zones; (3) Arts of Southern Savanna and Southern and Eastern African fringe. This course may be repeated with change of content and may be taken for graduate credit under ART 596.

ARH 3605 (ART 328) American Indian Art. S.
Credits: 4; Prereq: ART 207-208-209
A survey of the visual arts of the Amerindians north of Mexico from the prehistoric era to the present.

(ART 329) Introduction to Afro-American Art. S.
Credits: 4; Prereq: ART 207-208-209
This course will include Afro-American art from Latin America and the Caribbean as well as from the United States. Emphasis will be on the social context of the art and artists under consideration. May be taken for graduate credit under ART 596.

††Grading is on a S-U basis only.

Descriptions

ART

ART 3600 C (ART 341) Photography, 1. F, W, S, SS.
Credits: 4; Prereq: ART 101.
Fundamentals of photography. Operation of camera. Developing, printing, enlarging. Principles of design in photography.

ART 3601 C (ART 342) Photography, 2. F, W, S, SS.
Credits: 4; Prereq.: ART 341.
Continuation of ART 341.

ART 3605 C (ART 345) Photo-Print Processes 1. F, W, S, SS.
Credits: 4; Prereq.: ART 341-355.
Studies in the conversion of the photographic image into a form suitable for the printmaking processes. Processes will include: photo screen printing, photo-etching and photo-lithography.

ART 3606 C (ART 346) Photo-Print Processes 2. F, W, S, SS.
Credits: 4; Prereq.: ART 345.
Continuation of ART 345. May be repeated with change of content.

ART 3310 C (ART 350) Intermediate Drawing, 1. F, S.
Credits: 4; Prereq: ART 104-206.
The function of drawing in art. Pictorial concepts motivated by study of the human figure. Problems of draftsmanship and form.

ART 3311 C (ART 351) Intermediate Drawing 2. W, SS.
Credits: 4; Prereq: ART 350.
Continuation of ART 350.

ART 3510 C (ART 353) Painting 1. F, W, S, SS.
Credits: 4; Prereq: ART 206.
The oil medium. Technical and creative problems. Continued emphasis upon pictorial organization.

ART 3520 C (ART 354) Painting, 2. F, W, S, SS.
Credits: 4; Prereq: ART 353.
Work in one or more of the painting media: oil, watercolor, casein, lacquer, tempra, etc.

ART 3400 C (ART 355) Printmaking, 1. F, W, S, SS.
Credits: 4; Prereq: ART 350.
Basic procedure and processes in printmaking. Formal and expressive characteristics of the print media.

ART 3401 C (ART 356) Printmaking, 2. F, W, S, SS.
Credits: 4; Prereq: ART 355.
A continuation of ART 355.

ART 3701 C (ART 357) Scupture 1. F, W, S, SS.
Credits: 4; Prereq: ART 102.
Problems in sculptural form and composition. Work in plaster, clay, metal and other materials.

ART 3702 C (ART 358) Sculpture, 2. F, W, S, SS.
Credits: 4; Prereq: ART 357.
Continuation of ART 357. Emphasis upon sculpture in metal. Introduction to carving.

ART 3233 C (ART 360) Layout 1. F.
Credits: 4; Prereq: ART 101-205. Recommended, ART 260.
Fundamental principles of visual communication and of design in printed material.

ART 3234 C (ART 361) Layout, 2. W.
Credits: 4; Prereq: ART 360.
Continuation of ART 360.

ART 3282 C (ART 362) Typographical Design. W.
Credits: 4; Prereq: ART 360.
Study of the nomenclature, basic principles and mechanics of typography as an element of graphic communication. Practical exercises in layout and preparation of type for the printed page.

ART 3235 C (ART 368) Graphic Design. S.
Credits: 4; Prereq: ART 360-361-362.
Principles of advertising design with emphasis upon development of visual ideas and necessary skills and techniques for their presentation.

ART 3111 C (ART 380) Intermediate Ceramics, 1. F, W, S, SS.
Credits: 4; Prereq: ART 280.
Continuation of ART 280. Emphasis upon the use of the potter's wheel and experimentation with ceramic glazes.

ART 3112 C (ART 381) Intermediate Ceramics, 2. F, W, S, SS.
Credits: 4; Prereq: ART 380.
Continuation of ART 380.

ART 3150 C (ART 383) Jewelry and Metalwork, 1. F.
Credits: 4; Prereq: ART 102-280.
Basic processes in jewelry and metalwork. Work in silver, copper, and other materials. Enameling on metal.

ART 3151 C (ART 384) Jewelry and Metalwork, 2. W.
Credits: 4; Prereq: ART 383.
Emphasis upon craftsmanship. Advanced techniques in metalwork and enameling.

ART 3158 C (ART 385) Jewelry and Metalwork, 3. S.
Credits: 4; Prereq: ART 383-384.
Continuation of ART 384.

ARH 4495 (ART 408) Senior Seminar. F, S, SS.
Credits: 4; Prereq: Senior standing and a major in art.
Study and discussion of selected topics of current interest and significance in the visual arts.

ARH 4310 (ART 420) Early Renaissance Art in Italy. F.
Credits: 4; Prereq: ART 207-208-317-318.
Italian art and architecture of the 14th century. Emphasis upon painting and sculpture.

ARH 4311 (ART 421) Rennaisance Art in Italy. W.
Credits: 4; Prereq: ART 207-208-420.
Continuation of ART 420. Italian art and architecture of the 15th century. Emphasis upon painting and sculpture.

ARH 4312 (ART 422) Later Renaissance Art in Italy. S.
Credits: 4; Prereq: ART 207-208-421.
Continuation of ART 421. Italian art and architecture of the 16th century. Emphasis upon painting and sculpture.

ARH 4331 (ART 423) Renaissance Art in Northern Europe. F.
Credits: 4; Prereq: ART 207-208.
Sources and development of late 14th and 15th century art outside Italy. Emphasis upon painting and sculpture.

ARH 4332 (ART 424) Later Renaissance Art in Northern Europe. W.
Credits: 4; Prereq: ART 207-208-423.
Continuation of ART 423. 16th century European art outside Italy. Emphasis upon painting and sculpture.

ARH 4350 (ART 425) Baroque Art in Europe. S.
Credits: 4; Prereq; ART 207-208-424.
Continuation of ART 422-424. European art and architecture in the 17th and 18th centuries. Emphasis upon painting and sculpture.

ARH 4431 (ART 427) Nineteenth Century Art. F.
Credits: 4; Prereq. ART 207-208-209-425.
Continuation of ART 425. European art and architecture in the nineteenth century. Emphasis upon painting and sculpture. Neo-Classicism, Romanticism, Realism.

ARH 4432 (ART 428) Late Nineteenth Century Art. W.
Credits: 4; Prereq: ART 207-208-209-427.
Continuation of ART 427. European art and architecture from approximately 1875 to 1913.

ARH 4452 (ART 429) Early Twentieth Century Art. S.
Credits: 4; Prereq: ART 207-208-209-428.
Continuation of ART 428. European and American art of the twentieth century prior to 1940.

ARH 4453 (ART 430) Mid-Twentieth Century Art. F, S, S, SS.
Credits: 4; Prereq: ART 429.
Continuation of ART 429. American and international art from 1945 to present.

ART 4604 C (ART 441) Advanced Photography. F, W, S, SS.
Credits: 5; Prereq: ART 342.
Use of the camera as a medium of individual creative expression. Experimental projects in black and white and color photography. This course may be repeated for credit.

ART 4312 C (ART 450) Advanced Drawing. F, W, S, SS.
Credits: 4; Prereq: ART 350-351.
Emphasis upon the drawing as a terminal creative expression rather than as a preliminary study. This course may be repeated for credit.

ART 4531 C (ART 453) Advanced Painting. F, W, S, SS.
Credits: 5; Prereq: ART 354.
Emphasis upon individual creative expression. This course may be repeated for credit.

ART 4402 C (ART 455) Advanced Printmaking. F, W, S, SS.
Credits: 5; Prereq: ART 356.
Advanced problems in creative printmaking. This course may be repeated for credit.

ART 4703 C (ART 457) Advanced Sculpture. F, W, S, SS.
Credits: 5; Prereq: ART 358.
Advanced problems in sculptural form with further development of processes and techniques. This course may be repeated for credit.

ART 4237 C (ART 460) Advanced Graphic Design. F.
Credits: 5; Prereq: ART 368.
Continuation of ART 368. Planning of advertising campaigns. Emphasis upon concise visual thinking and upon speed and quality of execution.

ART 4239 C (ART 467) Projects in Graphic Design, 1. W.
Credits: 5; Prereq: ART 460.
Projects in design and execution of page advertisement and direct-mail brochures. Poster design and package design.

ART 4241 C (ART 468) Projects in Graphic Design, 2. S.
Credits: 5; Prereq: ART 467.
Design and execution of comprehensive advertising campaign.

ART 4113 C (ART 480) Advanced Ceramics. F, W, S, SS.
Credits: 5; Prereq: ART 381.
Contemporary ceramic design and execution. Advanced technical and creative problems. This course may be repeated for credit.

ARH 4935 (ART 490) Honors Seminar in Art. F, W, S, SS.
Credits: 4; Prereq: ART 408 or equivalent, senior standing and a major in art.
Intensive study by the seminar method of a limited topic in the field of art. This course may be repeated with change in content.

GRADUATE COURSES

ARH 5913 (ART 500) Methods of Research and Bibliography. F.
Credits: 4; Prereq: ART 309 or its equivalent.

ART 5907 (ART 596) Individual Study. F, W, S, SS.
Credits: 4 to 6; Prereq: A major in art and permission of the departmental head. This course may be repeated for credit.

ARH 6897 (ART 611) Seminar: Problems in the History, Theory and Criticism of Art I. W.
Credits: 4

ARH 6898 (ART 621) Seminar: Problems in the History, Theory and Criticism of Art II. S.
Credits: 4

ARH 6899 (ART 622) Seminar: Problems in the History, Theory and Criticism of Art III. SS
Credits: 4

ART 6340 C (ART 650) Advanced Drawing. F, W, S, SS.
Credits: 4; Prereq: ART 450.

ART 6927 C (ART 651) Advanced Study. F, W, S, SS.
Credits: 4 or 6

ARH 6791 (ART 655) Research in the Methods and Materials of the Artist. F, W, S, SS.
Credits: 1 to 5††

ART 6911,ARH 6913 (ART 697) Supervised Research. F, W, S, SS.
Credits: 1 to 5††

ART 6940 (ART 698) Supervised Teaching. F, W, S, SS.
Credits: 1 to 5††

ART 6911 (ART 699) Master's Research. F, W, S, SS.
Credits: 1 to 15††

ARTS AND SCIENCES
College of Arts and Sciences

General and Cross-Departmental Courses

(ASC 180) Introduction to the Legal Profession. F, S.
Credits: 1; Offered S-U only.
The role of law in today's society; prelaw preparation; law school admission standards and criteia; law practice and the legal profession. Designed to provide insight into the nature of the legal profession, the skills required in the practice of law, and the opportunities for careers following graduation from law school.

AFA 2000 (ASC 201) Introduction to Afro-American Studies. F, W, SS.
Credits: 4
nn integrative interdisciplinary exploration serving to introduce the student to selected themes in the study of the contemporary Afro-American experience, emphasizing continuity and change in cultures and societies of people of African origin.

AFS 2002 (ASC 202) The African Experience — An Introduction to African Studies. F, W, S. (Ident. with BES 2521 - BES 202).
Credits: 4
An introductory interdisciplinary study of African society and culture that examines the richness, diversity, and time-depth of African civilizations.

(ASC 301) Social Ethics. W.
Credits: 4
A critical introduction designed to develop one's capacity to think clearly and intelligently about ethical issues that arise in relation to such social institutions as government, business, medicine, and law. Readings will be both theoretical and applied.

(ASC 401) Ethical Issues in Medicine. F, S.
Credits: 4
A critical introduction designed to develop the student's capacity to think clearly and intelligently about contemporary ethical issues in medicine; e.g., abortion, euthanasia, human experimentation, allocation of scarce resources and biomedical engineering.

(ASC 402) Ethical Issues in Law. W.
Credits: 4
A critical introduction designed to develop the student's capacity to think clearly and intelligently about contemporary ethical issues in law; e.g., the legal enforcement of morality, the separation of law and morality, civil disobedience, bargaining, punishment and responsibility.

COC 4400 (ASC 404) Man and the Computer. F, S.
Credits: 4; Prereq: Senior standing.
The impact of computers and information science on man and the structure of society.

(ASC 440) Interdisciplinary Workshop in Social Issues. F, W, S, SS.
Credits: 1 to 5
For each quarter, the content of this course will be recommended by the chairpersons of the Divisions of the College and approved by the Curriculum Committee. May be repeated for a maximum of 15 credits with change of topic.

AFS 4935 (ASC 450) African Studies Interdisciplinary Seminar. W.
Credits: 3; Prereq: Upper-division standing or approval of instructor.
A research seminar on a selected interdisciplinary theme. May be repeated for credit when course theme is different up to a maximum of 9 credits.

AFA 4936 (ASC 453) Afro-American Studies Senior Integrative Seminar 1. F, S.
Credits: 4; Prereq: Senior standing and permission of the adviser of the Afro-American Studies certificate program.
An intensive examination of the bibliographic material and an analysis of theory, method, and special problems in the field of Afro-American studies. The relevance of different disciplines to the study of common problems will be explored.

AFA 4937 (ASC 454) Afro-American Studies Senior Integrative Seminar 2. W, SS.
Credits: 4; Prereq: ASC 453 and permission of the adviser of the Afro-American Studies certificate program.
A research seminar which will include a month long conference at which scholars from diverse fields will explore in common topics of interdisciplinary interest.

EUS 4935 (ASC 460) Western European Senior Seminar. W.
Credits: 3; Prereq: Senior standing and permission of adviser of Western European Studies Program.

HCA 4410 L (ASC 471) Humanistic Issues in Health Care: Medicine. F, S.
Credits: 4
Students are selected by pre-medical advisors for participation in the program. Studies in the significance of values, humanities constructs and methods of inquiry as related to crises, problems, and decisions found in contemporary medical care. Course will focus on the physician-patient relationship.

HCA 4102 (ASC 472) Humanistic Issues in Health Care: Nursing, Health-Related Professions, and Pharmacy. W.
Credits: 4
Students are selected by pre-professional advisors for participation in the program. Studies in the significance of values, humanities constructs and methods of inquiry as related to crises, problems, and decisions found in allied health fields. Course will focus on the physician-patient relationship.

HUM 4563 (ASC 473) Law and Humanities: The Metaphors of Culture. F.
Credits: 4
Students are selected by their advisors for participation in the program. Studies in the relationships between law and language.

HUM 4564 (ASC 474) Humanities and Law: Constitution and Culture. W.
Credits: 4
Students are selected by pre-law advisors for participation in the program. Studies in the relation of law to history, society, and human values. The course will attempt to define law as a manifestation of human cultures and basic values.

(ASC 475) Humanistic Issues in Engineering. S.
Credits: 4
Studies in the relation of the humanities to engineering and applied science.

EAS 4933 (ASC 476) The Fabulous Artificer. F.
Credits: 4
Varying images of engineers and scientists.

EAS 4933 (ASC 477) Humanities and Business Administration. F.
Credits: 4
Inquiries into moral and ethical problems in business.

EAS 4933 (ASC 478) Selling as a Way of Life. F.
Credits: 4
An examination of certain fundamental humanistic aspects of the business profession.

IDS 4938 (ASC 487) High Honors Seminar. F, W, S, SS.
Credits: 4; Open to selected candidates for any baccalaureate degree with High Honors in the College of Arts and Sciences. Prereq.: Permission of the High Honors Committee.
Described in the Arts and Sciences section of this catalog. May be repeated for additional credit, up to a maximum of 12 credits.

IDS 4905 (ASC 496) Individual Study. F, W, S, SS.
Credits: 2 to 10
For select undergraduates undertaking indepth college approved courses of study. The project, as part of the student's planned program, must be approved by the Dean and carried out under the guidance of a faculty member.

(ASC 498) Individual Work in Interdisciplinary Studies. F, W, S, SS.
Credits: 1 to 10. Coreq: Acceptance into Individual Interdisciplinary Major Program.

GRADUATE COURSES

OMT 6631 (ASC 600) Scientist in the Sea. S.
Credits: 12

SED 6943 (ASC 641) Internship in College Teaching.
Credits: 3

SED 6943 (ASC 642) Internship in College Teaching.
Credits: 3

SED 6943 (ASC 643) Internship in College Teaching.
Credits: 3

ASIAN STUDIES
College of Arts and Sciences

MAJOR COMMITTEE 1976-77
McCune, S., Chairman (Geography); Chang, R.T. (History); Chu, C.C. (Chinese); Clubok,

††Grading is on a S-U basis only.

A.B., (Political Science); Craven, R.C. (Art); Creel, A.B. (Religion); Funk, A.L. (History); Johnson, I. (Humanities); Lawless, R. (Anthropology); Rolf, R. (Japanese); Thursby, G.R. (Religion); Toda, Y. (Economics).

The Asian Studies degree program offers a major for students whose interest in Asia pertains to cultural and regional studies rather than to a single discipline or department. The major consists of 40 quarter hours from designated courses, with a concentration of 28 hours in either East Asia or South Asia, and the remaining 12 hours in the other area and/or in General Asia courses. The program must include at least one interdisciplinary seminar. In addition to the major, attention is directed to the Basic Distribution and Language Requirements of the College of Arts and Sciences. The fulfilling of the foreign language proficiency for students in the Asian Studies program will be worked out in consultation with the faculty advisor, taking into account the student's educational, professional and personal goals. The University offers basic courses in Chinese and Japanese.

Asian Studies Courses

General Asia: HUM or AS 232; SSC or AS 281; PCL 326, AS 483.

East Asia: ART 323, CH 330; ES 448; GPY 494; HY 381, 382, 383, 482, 483; PCL 342; RN 322, 346, 422.

South Asia: ART 321, 322; HY or RN 385, 386; RN 321, 345, 381, 403, 421, 426.

Individual Study and Special Topics courses dealing with Asia may also be utilized for major credit, as approved by the faculty adviser.

Honors will be awarded to any student who completes the Asian Studies interdisciplinary major program, earns a grade point average of 3.5 or higher in his or her upper division work, earns a grade point average of 3.5 or higher in the major work, and is recommended by the Director of the Asian Studies Program and the course instructor as having completed in AS 483 or ASC 485 an individual project which is of honors caliber and which reflects the interdisciplinary nature of the Asian Studies Program.

HUM 2410 (AS 232) Asian Humanities. F, W, S.
Credits: 5; Ident. with HUM 232.
A general education course similar in philosophy and purpose to HUM 211-221,231. Contents selected from the philosophies, literature, arts and music of India, China and Japan.

ASN 2001 (AS 281) Asia and Its People, W, S.
Credits: 5; Ident. with SSC 281.
An introductory study of Asia, with special attention to selected current problems as reflected in life-situations in Asian countries.

ASN 4935 (AS 483) Asian Studies Senior Seminar. S.
Credits: 5; Prereq.: Senior status in Asian studies or permission of the instructor.
An integrative approach designed to enable a student to bring together various facets of previous study in relation to particular topics and problems. Required of all majors in the Asian Studies Interdisciplinary Program; open to other advanced students with permission of the instructor.

ASTRONOMY

College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77

Dr. Carr, Chairman; Carr, T.D.; Chen, K.-Y.; Cohen, H.L.; Donivan, F.F.; Eoff, K.M.; Green, A.E.S.; Gottesman, S.T.; Lebo, G.R.; Oliver, J.P.; Olsson, C.N.; Omer, G.C.; Roberts, L.H.; Smith, A.G., Wood, F.B.

Astronomy is a unit of the joint Department of Physics and Astronomy, which offers graduate degrees in astronomy at the M.S. and Ph.D. levels (see the Graduate Catalog). Because modern astronomy is almost entirely astrophysical in nature, students interested in careers in astronomy are advised to take a B.S. degree in physics with an admixture of 300- to 500-level astronomy courses. With such a background a student is well prepared to undertake, at this or other institutions, the graduate training that is essential for a professional career. Students desiring counseling on courses or careers in astronomy should consult the Chairman for Astronomy, Room 202B, Space Sciences Research Building.

AST 1002 (ATY 141) Descriptive Astronomy, F, W, S, SS.
Credits: 4
An elementary survey of the astronomical universe, primarily for those not majoring in physical science or mathematics.

AST 1022 L (ATY 142) Astronomy Laboratory. F, W, S, SS.
Credits: 1; Coreq. or Prereq.: ATY 141
Observational work: this plus ATY 141 satisfies the requirement for a laboratory science.

AST 2005 (ATY 241) Survey of Stellar Astronomy. S.
Credits: 4
An elementary survey emphasizing stellar, galactic and extragalactic astronomy. The course is designed for those not majoring in physical science or mathematics. Includes observational work and satisfies the requirement for a laboratory science.

AST 3082 (ATY 300) Basic Astronomy for Teachers. SS.
Credits: 4; Prereq: One year of high-school algebra.
Lectures, demonstrations, and observing sessions covering selected topics in solar system and stellar astronomy.

AST 3652 (ATY 305) Celestial Navigation. W.
Credits: 4; Prereq.: MS 102.
Determination of position at sea and guidance of marine vessels. Charts, the compass, dead reckoning, piloting, navigational instruments and nautical astronomy with emphasis on fundamentals of celestial navigation.

AST 3653 (ATY 306) Celestial and Air Navigation. S.
Credits: 4; Prereq.: MS 102.
Covers the guidance fundamentals of aircraft. Aeronautical charts, visual flight planning and procedures, relative movement, radio, navigational astronomy; time and sight reduction.

AST 3015 (ATY 316) General Astronomy 1. F.
Credits: 5; Prereq.: Calculus and one year of college physics.
First part of the sequence ATY 316-317. A survey of the astronomical universe, primarily for majors in physical science, engineering, or mathematics. Includes observational work and satisfies the requirement for a laboratory science.

AST 3016 (ATY 317) General Astronomy 2. W.
Credits: 5; Prereq: ATY 316
Second part of the sequence ATY 316-317.

AST 3034 (ATY 350) Frontiers in Astronomy. F, S, S, SS.
Credits: 3; Prereq: ATY 141 or ATY 241
Intended for non-science majors who have had an introductory course in Astronomy, this course will present an in-depth look at selected topics of current interest. The content will vary with the desires of the students and instructor. No background in physics or mathematics required.

AST 4905 (ATY 496) Individual Work. F, W, S, SS.
Credits: 1 to 5; Prereq: ATY 316-317 or two years of college physics, plus consent of instructor.
Assigned reading or research for qualified undergraduates. May be repeated with change of content.

GRADUATE COURSES

AST 5043 (ATY 503) History of Astronomy. W.
Credits: 3

AST 5113 (ATY 510) Solar System Astrophysics 1. W.
Credits: 3

AST 5114 (ATY 511) Solar System Astrophysics 2. S.
Credits: 3

(ATY 517) Introductory Positional Astronomy.
Credits: 3

AST 6506 (ATY 601) Celestial Mechanics 1.
Credits: 3

AST 6507 (ATY 602) Celestial Mechanics 2.
Credits: 3

PHS 6606 (ATY 603) Special Relativity.
Credits: 3

PHS 6616 (ATY 604) General Relativity.
Credits: 3

AST 6215 (ATY 605) Stellar Astrophysics 1.
Credits: 3

AST 6216 (ATY 606) Stellar Astrophysics 2.
Credits: 3

AST 6217 (ATY 607) Stellar Astrophysics 3.
Credits: 3

AST 6306 (ATY 608) Galactic Structure.
Credits: 3

ASI 6205 (ATY 611) Radio Astronomy 1.
Credits: 3

ASI 6206 (ATY 612) Radio Astronomy 2.
Credits: 3

ASI 6207 (ATY 613) Radio Astronomy 3.
Credits: 3

AST 6606 (ATY 617) Positional Astronomy 1.
Credits: 3

AST 6607 (ATY 618) Positional Astronomy 2.
Credits: 3

ASI 6105 (ATY 621) Astronomical Techniques 1.
Credits: 3

ASI 6106 (ATY 622) Astronomical Techniques 2.
Credits: 3

ASI 6115 (ATY 623) Astronomical Techniques 3.
Credits: 3

ASI 6116 (ATY 624) Astronomical Techniques 4.
Credits: 3

AST 6406 (ATY 631) Extragalactic Astronomy and Cosmology.
Credits: 3

AST 6165 (ATY 633) Radiopropagation and Ionospheric Physics 1.
Credits: 3

AST 6166 (ATY 634) Radiopropagation and Ionospheric Physics 2.
Credits: 3

AST 6169 (ATY 636) Atomic Physics of Planetary Atmospheres.
Credits: 3; (Ident with PS 636)

AST 6167 (ATY 637) Physics of the Earth's Upper Atmosphere.
Credits: 3; (Ident with PS 637)

AST 6168 (ATY 638) Physics of Planetary Atmospheres.
Credits: 3; (Ident with PS 638)

AST 6275 (ATY 643) Visual and Spectroscopic Binary Stars 1.
Credits: 3

AST 6276 (ATY 644) Visual and Spectroscopic Binary Stars 2.
Credits: 3

AST 6277 (ATY 645) Eclipsing Binary Stars 1.
Credits: 3

AST 6278 (ATY 646) Eclipsing Binary Stars 2.
Credits: 3

AST 6265 (ATY 651) Variable Stars.
Credits: 3

AST 6935 (ATY 680) Seminar in Modern Astronomy.
Credits: 1 ††

AST 6907 (ATY 690) Individual Work.
Credits: 1 to 5.

AST 6915 (ATY 697) Supervised Research.
Credits: 1 to 5 ††

AST 6945 (ATY 698) Supervised Teaching.
Credits: 1 to 5††

AST 6971 (ATY 699) Master's Research.
Credits: 1 to 15††

(ATY 721) The Giant Planets
Credits: 3

AST 7279 (ATY 741) Close Binary Stars.
Credits: 3

AST 7980 (ATY 799) Doctoral Research.
Credits: 1 to 15††

ATMOSPHERIC SCIENCES
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77
Green, A.E.S., Chairman; Chameides, W.L.; Coffey, M.T.; Cravens, T.E.; Garrison, L.M.; Garvey, R.H.; Klenk, K.F.; Peterson, L.R.; Spinhirne, J.; Ward, G.D.

MET 1010 (ATS 150) Introduction to Weather and Climate. F, W, S, SS.
Credits: 3; Prereq.: None.
A course designed for non-science students interested in understanding the phenomena of daily weather on the stage set by the climate.

MET 1010 L (ATS 151) Laboratory for Meteorology 150. F, S, SS.
Credits: 1; Coreq.: ATS 150.

MET 2701 (ATS 200) Elementary Meteorology and Atmospheric Physics. F, W, S.
Credits: 3
The phenomena of weather and climate, of the upper atmosphere and man's involvements with the lower atmosphere; for students with a physics or chemistry background.

MET 2503 L (ATS 201) Laboratory for Meteorology and Atmospheric Physics 200. F, W, S.
Credits: 1; Coreq: ATS 200.

MET 3711 (ATS 300) Introduction to Meteorology and Micrometeorology. W, SS.
Credits: 3; Prereq.: PS 215.
The interaction of the earth and atmosphere within the first hundred feet of the ground. The local radiation balance, and temporal and spatial distribution of solar radiation at the surface. The effects of small-scale circulation patterns on plant growth. Effects of local turbulence and convection.

MET 3100 (ATS 301) Dynamic Meteorology. W, SS.
Credits: 3; Prereq.: None.
Collection and use of climatic data; simple and complex climatic elements; climate history, trends, and fluctuations; climate activities and environment.

MET 3160 L (ATS 302) Laboratory for Meteorology and Micrometeorology 300. W, SS.
Credits: 1; Coreq.: MTY 300; Prereq: PS 215.

MET 4460 (ATS 443) Introduction to Aeronomy. W.
Credits: 3; Prereq.: MS 305.
Evolution, general properties and models of the atmosphere of Earth and other planets. A basic description of the physics of solar-terrestrial relationships, chemical processes and large and small scale motions of the atmosphere.

MET 4401 (ATS 446) Passive Remote Sensing. W.
Credits: 3; Prereq.: MS 305.
Recent developments in remote sensing by passive optical techniques (infrared to ultraviolet) are discussed both from the point of view of instrumentation and of the properties or phenomena which are measured. Introduction to remote sensing for persons concerned with the atmosphere and with earth resources (e.g., forestry, geology, urban studies, etc.).

MET 4402 (ATS 447) Remote Sensing of the Atmosphere (Active). S.
Credits: 3; Prereq.: PS 340
Recent developments in remote sensing of the atmosphere by active radio, optics, and acoustic techniques. Emphasis on micro-meteorological problems rather than the usual areas of meteorological concern.

MET 4905 (ATS 496) Individual Work. F, W, S, SS.
Credits: 3 to 5
Qualified undergraduate students may study selected topics in aeronomy and atmospheric sciences. May be repeated with change of content up to 15 credits.

BIOCHEMISTRY AND MOLECULAR BIOLOGY
College of Arts and Science

INSTRUCTIONAL STAFF 1976-77
Cerutti, P.A., Chairman; Allen Jr., C.M.; Boyce, R.P.; Chun, P.W.; Cohen, R.J.; Dunn, B.M.; Feldherr, C.M.†; Fried, M.; Gabbay, E.†; Gurin, S.; Hariharan, P.V.; Laipis, P.J.; Larkin, A.R.†; Mans, R.J.; McGuire, P.M.; Noonan, K.D.; O'Brien, T.W.; Remsen, J.F.; Rennert, O.M.†; Roberts, R.M.; Sander, E.G.; Stein, G.S.; Tsibris, J.C.M.
†Courtesy Appointments
Undergraduate Coordinator: R.J. Mans

The department offers a full program of courses for the undergraduate student preparing for professional school and advanced degrees in the biological, agricultural and life sciences. BCH 351 is an introductory course designed to acquaint the student with the important role biochemistry plays in the life sciences with particular emphasis on the human aspects.

BCH 411, 412, 511 and 512 are designed to provide the student with the comprehensive information needed to undertake advanced studies in more specialized areas. BCH 511 and BCH 512 are offered primarily for graduate students, post-baccalaureate students, and advanced undergraduates who wish a more extensive introduction to biochemistry. BCH 578 and 479 offer students the option of undertaking advanced study in two specialized areas of biochemistry, bioorganic chemistry and biochemical genetics.

BCH 496 and 513 complement these lecture courses by providing the option of a laboratory experience for those students who are interested in experimental approaches to biochemistry.

The seminar, BCH 436, is a part of the Junior Honors Medical Program which permits early entry into medical school.

Students with an interest in biochemistry and neuroscience may also elect to undertake an Interdisciplinary Major in Biochemical and Neural Sciences.

For those planning graduate work in the Department, the undergraduate major should preferably be in chemistry or biological sciences. It is recommended that as many as possible of the following courses be taken: BCH 351, 511, 512, 513, 496, 578, 479, quantitative, organic and physical chemistry, calculus, physics, genetics, physiology, microbiology and German.

BCH 3713 (BCH 351) Introduction to Human Molecular Biology. S.
Credits: 3; Ident. with MED 351; Prereq: ZY 202, CBS 231 or equivalent; CY 204 or equivalent.
Introduction to molecular biology of normal and abnormal human systems for students in the Life Sciences. Relationship of biochemistry to advances in medical sciences, organization of human cells, cell duplication and mutability of the human genome, nutrition and metabolic diseases, viral diseases, and cell growth and proliferation (cancer, ageing).

BCH 4313 (BCH 411) Introduction to Physical Biochemistry. F.
Credits: 5; Prereq.: Organic Chemistry.
The first half of BCH 411-412. An introduction to both molecular biology and physical biochemistry. Topics will include a survey of structure, chemistry and function of nucleic acids, amino acids and proteins, enzyme kinetics, and regulation.

BCH 4203 (BCH 412) Introduction to Intermediary Metabolism. W.
Credits: 5; Prereq.: BCH 411
The second half of BCH 411-412. An introduction to intermediary metabolism. Topics will include a survey of biosynthetic and degradative pathways of carbohydrate, lipids, amino acids, in addition to photosynthesis, energy conservation and metabolic control.

PCB 4930 (BCH 436) Cell Biology Seminar. F.
Credits: 7; Identical with MED 436.
Cellular functions in health and disease. The structure and molecular biology of the mammalian cell are stressed, including such things as virus-cell interactions, inborn errors of metabolism and bacterial growth. Enrollment restricted to students accepted into the Basic Biological and Medical Sciences Program.

PCB 4535 (BCH 479) Biochemical Genetics. S.
Credits: 4; Prereq.: BCH 411-412, BCH 511-512, BCH 521, BCH 522 or consent of instructor.
Topics include classic and contemporary experiments illustrative of the main aspects of DNA replication, function and chromosomal organization; DNA synthesis, processing and regulation; specific protein synthesis as expressions of genetic information in: bacteria - phage, mammalian cells - virus, developing and differentiating tissues and genetically characterized plants.

BCH 4910 (BCH 496) Biochemistry Senior Research. F, W, S, SS.
Credits: 5; Prereq: CY 381-382 or equivalent. Senior standing and consent of instructor.
Laboratory or literature investigations of biochemical problems of current interest. May be repeated with change of content up to a maximum of 20 credits.

††Grading is on a S-U basis only.

Descriptions

GRADUATE COURSES

BCH 5753 (BCH 511) Biochemistry. F.
Credits: 5; Prereq.: Organic Chemistry

BCH 5051 (BCH 512) Biochemistry. W.
Credits: 5; Prereq.: BCH 511

BCH 5051L (BCH 513) Biochemistry Laboratory. W.
Credits: 2; Prereq.: Organic Chemistry and BCH 411-412 or BCH 511-512.

BCH 5878 (BCH 521) Current Trends in Biochemistry. F.
Credits: 2; Coreq.: BCH 511.

BCH 5879 (BCH 522) Current Trends in Biochemistry. W.
Credits: 2; Coreq.: BCH 512.

BCH 5050 (BCH 578) Chemistry of Biological Molecules. S.
Credits: 4; Ident. with CY 578.

BCH 6060 (BCH 601) Biochemical Structure and Function.
Credits: 4

BCH 6206 (BCH 602) Metabolism
Credits: 4

(BCH 603) Principles of Molecular Biology and Genetics.
Credits: 4

BCH 6876 (BCH 606) Recent Advances in Biochemistry.
Credits: 2; Prereq.: BCH 601 or consent of instructor.

BCH 6746 (BCH 612) Physical Biochemistry.
Credits: 4

BCH 6296 (BCH 614) Bioenergetics and Enzyme Mechanisms.
Credits: 4

BCH 6156 C (BCH 615) Research Methods in Biochemistry.
Credits: 2 to 6; Ident. with MED 615.

BCH 6936 (BCH 616) Biochemistry Seminar
Credits: 1††; [Ident with MED 616]

BCH 6937 (BCH 617) Special Topics in Biochemistry.
Credits: 2; Ident. with MED 617.

BCH 6971 (BCH 699) Master's Research.
Credits: 1 to 15††

BCH 7627 (BCH 721) Biochemistry of Disease.
Credits: 3; Ident. with MED 721.

BCH 7727 (BCH 722) Molecular Biology 1.
Credits: 4; Ident. with MED 722.

BCH 7257 (BCH 723) Molecular Biology 2.
Credits: 4; Ident. with MED 723.

BCH 7077 (BCH 724) Molecular Biology 3.
Credits: 4; Ident. with MED 724.

BCH 7980 (BCH 799) Doctoral Research.
Credits: 1 to 15††

BIOLOGICAL SCIENCES - INTEGRATED SEQUENCE

College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77

Payne, W.W., Director, Division of Biological Sciences; Bowes, G., Course Coordinator; Staff from the Departments of Biochemistry, Botany, Microbiology and Zoology.

††Grading is on a S-U basis only.

The new Integrated Biological Sciences Sequence is intended for pre-professional biology students, this includes students intending to enter the Health Sciences, Food and Agricultural Sciences as well as the Departments of Biochemistry, Botany, Microbiology and Zoology. The BIO 201-202-203 sequence will satisfy the undergraduate requirements for ZY 201, 202 and 301, and BTY 181.

BSC 2010 C (BIO 201) Molecules and Cells. F.
Credits: 5; Prereq: CY 202 or equivalent, and placement examination.
The first quarter of BIO 201-203 Integrated Biology Sequence. Lecture, discussion and laboratory in molecular and cellular biology. The structure, function, and basic metabolism of eucaryotic and procaryotic cells and viruses; including the molecular basis of genetics.

BSC 2011 C (BIO 202) Organisms. W.
Credits: 5; Prereq: BIO 201 or placement examination.
The second quarter of BIO 201-203 Integrated Biology Sequence. Lecture, discussion and laboratory in whole organism biology. The classification, genetics, growth and development, physiology, and anatomy of plants and animals.

BSC 2012 C (BIO 203) Populations and Communities. S.
Credits: 5; Prereq.: BIO 202 or placement examination.
The third quarter of BIO 201-203 Integrated Biology Sequence. Lecture, discussion and laboratory in evolution, population biology and ecology. An examination of the principles of population genetics, population growth and regulation, evolution, biogeography and community organization. Summary and integration of the major concepts presented in the sequence.

BOTANY

College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77

Payne, W.W., Chairman; Mullins, J.T., Associate Chairman; Aldrich, H.C.†; Anthony, D.S.; Bowes, G.; Davis, J.S.; Deevey, E.S.†; Ewel, J.J.; Gamble, J.F.†; Griffin, D.G.; Humphreys, T.E.; Kimbrough, J.W.; Lucansky, T.W.; Lugo, A.E.; Popenoe, H.†; Roberts, R.M.†; Seymour, C.P.†; Shanor, L.; Smith, R.C.; Vasil, I.K.; Ward, D.B.
†Courtesy Appointments.

Undergraduate Coordinator; T.W. Lucansky

Students planning a major in botany, either in the College of Agriculture or in the College of Arts and Sciences, should consult the departmental advisor as early as possible. The major in Botany shall consist of not less than 36 credits, including BIO 201-203 or BTY 181, BTY 203, BTY 301, 310, 380 or 532, and BTY 342 or 542. The remaining hours of elective for the major will be chosen to meet the particular interest of the student for specialization in botany. Courses are to be selected from among the following: BTY 375, 441, 500, 501, 502, 515, 521, 522, 523, 524, 525, 532, 542, and 551. Majors are required also to present credit for a course with laboratory on the principles of genetics, either AY 362 and AY 363 or ZY 325, ZY 201, a course in organic chemistry, a year of college physics and mathematics MS 201 or equivalent. Those who are planning to pursue graduate study should include in their program two years of a foreign language. For other degree requirements and programs see Agriculture, Lower Division; Botany; Agriculture, Upper Division; B.S. in Biology, College of Arts and Sciences.

DEPARTMENTAL HONORS

To be eligible to work for departmental honors in Botany, a student must have a minimum grade point average of 3.0 overall and 3.2 in at least 20 hours of Botany. Seniors working for departmental honors in Botany will be expected to enroll in BTY 496 for 2 quarters of the Senior year. Approval to undertake honors work must be secured from the Departmental Honors Committee prior to the first registration for BTY 496.

BOT 1020 C (BTY 181) Introductory Botany. F, W, S, SS.
Credits: 5
The first quarter of BTY 181-203 sequence. Structures and functions of cells, tissues and organs of flowering plants. Students with credit in CBS 231 or equivalent or ZY 202 or BIO 201-203 may not register in this course for credit but should take BTY 203.

BOT 2021 C (BTY 203) General Botany. F, W, S.
Credits: 5; Prereq.: BTY 181 or CBS 231 or equivalent or ZY 202 or BIO 201-203 or equivalent.
Survey of major plant groups with regard to structure, life histories and classification.

BOT 2710 C (BTY 242) Practical Plant Taxonomy. W.
Credits: 3
An introductory course for higher plant taxonomy, including consideration of principles of systematic botany, nomenclature and classification, but emphasizing identification. A student completing this course should be able to identify the common ferns, fern allies, gymnosperms and flowering plants of field and garden.

PCB 3033 C (BTY 301) Introduction to Ecology. F.
Credits: 5; Prereq: introductory college biology.
Basic principles of ecology as they apply to environmental problems, including major terrestrial and aquatic ecosystems of Florida.

BOT 3503 C (BTY 310) Elementary Plant Physiology. F, W.
Credits: 4; Prereq.: BTY 181 or BIO 201-203 or CBS 221 and CBS 264, CY 204.
The chemical organization, cellular organization, metabolism, nutrition and growth of the higher plants.

(BTY 311) Elementary Plant Physiology Laboratory. F, W.
Credits: 2; Coreq: BTY 310.
Laboratory experiments to accompany BTY 310.

BOT 3153 C (BTY 342) Local Flora. S, SS.
Credits: 3; Prereq.: BTY 203 or CBS 221 and CBS 264.
Laboratory observation of the gross features of vascular plants and practice in use of keys to identify plants. Elementary ecology of principal types of plant communities in Northern Florida. Field trips.

BOT 3173 C (BTY 345) Weed Identification.
Credits: 2; Prereq.: BTY 203 or equivalent.
The identification of weeds in Florida, their distribution and importance in different areas of the State. May be taken in conjunction with PLS 442 Weed Science.

BOT 3163 C (BTY 346) Poisonous Plants.
Credits: 3; Prereq.: BTY 203 or equivalent.
The identification of plants in Florida toxic to man and animals, the symptoms of their toxicity, and some consideration of treatment.

BCH 3023 (BTY 370) Elementary Organic and Biological Chemistry. F, S.
Credits: 5; Prereq.: CY 202.
Elementary organic chemistry and biochemistry for students in the agricultural technical curricula. This is a terminal course and is not part of any sequence of courses in the Chemistry Department.

BOT 3800 (BTY 375) Plants in Human Affairs. F.
Credits: 3
The role of crop plants in the development of human civilization, and their effect on the

course of world history, politics, economy, and culture. Survey of important plants and plant products used by man for various purposes.

BOT 3303 C (BTY 380) Introductory Vascular Plant Morphology. S. (77-78).
Credits: 5; Prereq: BTY 203 or CBS 221 and CBS 264.
Salient features of representative members of each group. Consideration of origin of land plants and primitive land plants. Emphasis given to principles on which morphological and anatomical interpretations are made.

BOT 4283 C (BTY 441) Microtechnique. S.
Credits: 3; Prereq: one year of college biology.
Practice in methods of preparing, recording, and illustrating biological materials for microscopic studies.

BOT 4052 (BTY 472) Practical Expeience in Teaching Botany. F, W, S, SS.
Credits: 3; Prereq: senior status with recommendations from two faculty members, including the course instructor.
Participation in teaching lower division botany courses with practical experience in instructional procedures, testing and grading, course and laboratory preparation and laboratory assistance. May be repeated with change of content up to a maximum of 6 credits.

BOT 4905 (BTY 496) Individual Studies in Botany. F, W, S, SS.
Credits: 3; Prereq: at least twelve hours of botany and consent of instructor.
Qualified students and the instructor choose a particular problem for study. May be repeated for a maximum of six credits.

GRADUATE COURSES

BOT 5625 (BTY 500) Plant Geography. W.
Credits: 4

PCB 5046 C (BTY 501) Advanced Ecology. S.
Credits: 4

BOT 5695 (BTY 502) Ecosystems of Florida. S.
Credits: 5

BOT 5505 C (BTY 515) Intermediate Plant Physiology. S.
Credits: 5

BOT 5435 C (BTY 521) Introductory Mycology. F.
Credits: 5

BOT 5405 C (BTY 522) Phycology. F.
Credits: 5

BOT 5485 C (BTY 523) Mosses and Liverworts. W.
Credits: 5

BOT 5755 C (BTY 524) Lower Vascular Plants. F.
Credits: 5

BOT 5225 C (BTY 532) Plant Anatomy. W.
Credits: 5

BOT 5725 C (BTY 542) Taxonomy of Seed Plants. S.
Credits: 5

PCB 5115 C (BTY 551) Cytology. F.
Credits: 5

APB 5415 (BTY 565) Radiosotope Theory and Techniques. W.
Credits: 5

BOT 6646 C (BTY 602) Ecology of Aquatic Plants. SS.
Credits: 5

PCB 6356 C (BTY 604) Ecosystems of the Tropics. W.
Credits: 4

BOT 6951 (BTY 605) Tropical Biology: An Ecological Approach.
Credits: 12

BOT 6666 (BTY 607) Advanced Tropical Botany.
Credits: 12

BOT 6566 (BTY 615) Plant Growth and Development. F.
Credits: 3

BOT 6526 (BTY 616) Plant Nutrition. F.
Credits: 3

BOT 6516 (BTY 617) Plant Metabolism. W.
Credits: 3

BOT 6576 (BTY 618) Photophysiology of Plant Growth. S.
Credits: 4

BOT 6446 C (BTY 621) Biology and Taxonomy of the Basidiomycetes. SS.
Credits: 5

BOT 6346 C (BTY 622) Biology and Taxonomy of the Myxomycetes and Phycomycetes. W.
Credits: 5

(BTY 623) Biology and Taxonomy of Ascomyetes and Their Imperfect Stages. S.
Credits: 5

PCB 6626 C (BTY 624) Fungal Genetics. F.
Credits: 5

BOT 6496 C (BTY 625) Fungal Physiology. F.
Credits: 5

BOT 6476 C (BTY 626) Lichenology. SS.
Credits: 5

BOT 6316 C (BTY 631) Developmental Morphology of Flowering Plants. W.
Credits: 5 (Ident. with MSC 631).

BOT 6326 C (BTY 632) Methods and Applications of Plant Cell and Tissue Culture. S.
Credits: 5 (Ident. with MCS 632).

BOT 6716 C (BTY 642) Advanced Taxonomy. F.
Credits: 3

PCB 6176 (BTY 653) Electron Microscopy of Biological Materials. W.
Credits: 2

PCB 6176 L (BTY 654) Laboratory in Electron Microscopy. W.
Credits: 2

BOT 6256 C (BTY 655) Plant Cytology. S.
Credits: 5

PCB 6216 (BTY 656) Cytochemistry. S.
Credits: 4

PCB 6691 (BTY 664) Topics in Genetics. F, W, S.
Credits: 2 to 4, maximum of 12

(BTY 666) Historical Ecology of the Pleistocene. S.
Credits: 4 (Ident. with APY 666, GY 666, ZY 666).

BOT 6936 (BTY 692) Graduate Student Seminar. F, W, S.
Credits: 1

BOT 6927 (BTY 695) Advances in Botany. F, W, S, SS.
Credits: 1 to 5, maximum of 5

BOT 6905 (BTY 696) Individual Studies in Botany. F, W, S, SS.
Credits: 1 to 5, maximum of 10 in each area.

BOT 6916 (BTY 697) Supervised Research.
Credits: 1 to 5††

BOT 6928 (BTY 698) Supervised Teaching.
Credits: 1 to 5††

BOT 6991 (BTY 699) Master's Research.
Credits: 1 to 15††

BOT 7918 (BTY 799) Doctoral Research.
Credits: 1 to 15††
††Grading is on a S-U basis only.

BROADCASTING
College of Journalism and Communications

INSTRUCTIONAL STAFF, 1976-77
Christiansen, K.A.; *Chairman;* Conner, H.H.; Counts, F.S.; De Los Santos, A.E.; Edwardson, M.N.; Grooms, D.A.; Jacobs, A.J.; Pactor, H.S.; Wells, E.L.; Whittaker, R.D.

Offerings in Broadcasting are designed primarily for those planning professional careers in radio and television media and in related fields. These courses, however, may be taken for elective credit by students in all Upper Division units of the University. Students interested in major work in Radio, Television, Advertising, Journalism and Public Relations are also referred to course offerings under Advertising and Journalism and to the requirements of the College of Journalism and Communications.

RTV 2000 (BR 212) Introduction to Broadcasting, F, W, S, SS.
Credits: 3
An introduction to the cultural, social legal, business and career aspects of Broadcasting.

RTV 3300 (BR 301) Broadcast News Writing. F, W, S, SS.
Credits: 4; Prereq.: JM 201,BR 318 and ability to type.
Basic instruction and practice in news gathering, writing and announcing, with special attention given to the handling of reporting assignments for the broadcast news media.

RTV 3403 (BR 302) Mass Media Processes and Effects. F, W, S, SS.
Credits: 4
The flow and impact of messages from mass media; includes consideration of semantics, attitude change, behavior modification, and current theories of communication behavior.

RTV 3100 (BR 318) Broadcast Writing. F, W, S, SS.
Credits: 4; Prereq: JM 201 and BR 324 or permission of instructor.
Writing for radio and television: Announcements, interviews, music, special events, documentaries, commentaries.

(BR 324) Broadcast Production 1. F, W, S, SS.
Credits: 3; Prereq: BR 212, Junior standing, or permission of instructor.
Fundamentals of broadcast announcing, presentation, and interviewing; audio control room procedures; audio recording and editing; use of music and sound effects.

(BR 325) Broadcast Production 2. F, W, S, SS.
Credits: 3; Prereq: BR 324.
Basic television production and direction, audio and video controls, studio cameras, slide and film projection, staging, lighting, graphics, composition.

(BR 326) Broadcast Production 3. F, W, S, SS.
Credits: 3; Prereq: BR 325.
Applications of the elements of television production, direction and presentation.

††Grading is on a S-U basis only.

FIL 4202 (BR 424) Cinematography for TV. F, W, S, SS.
Credits: 4; Prereq: BR 212, BR 318, BR 324, or permission of instructor.
A basic course in handling motion picture equipment and filming assignments for television. Students are required to provide class materials, including cost of raw film stock and cost of film processing.

RTV 4500 (BR 425) The Broadcast Program. F, W, S, SS.
Credits: 4; Prereq: Senior standing, BR 318 and BR 325.
Program planning and schedule building.

RTV 4206 (BR 426) Advanced Television Directing. W, S.
Credits: 3; Prereq: Senior standing; BR 318, BR 326 and permission of instructor.
A study of the aesthetic and psychological factors of television production and their creative application in program production and execution.

RTV 4302 (BR 436) Radio-TV Reporting, F, W, S.
Credits: 4; Prereq: BR 301 and BR 424.
News writing, editing and processing for the broadcast media.

RTV 4101 (BR 438) Advanced Film Writing. F.W.
Credits: 3; Prereq: Senior standing; BR 318 and BR 324 or permission of instructor.
Researching, writing and preparing the public relations, educational or documentary film.

RTV 4311 (BR 442) Documentary for TV. W, S.
Credits: 4; Prereq: BR 424 and BR 438.
Planning, producing, filming the TV news documentary and the program documentary. Students required to provide class materials, including cost of raw film stock and cost of film processing.

FIL 4200 (BR 450) Communicative Elements in Film Production. W.
Credits: 4; Prereq: BR 424.
Study of films with reference to the contribution made by their components to the film-makers statement and intent. Emphasis will be placed upon the non-fiction film.

RTV 4930 (BR 460) Seminar: Ethics and Problems in Broadcasting. F, W, S, SS.
Credits: 4; Prereq: BR 425. Open only to Broadcasting Seniors in their graduating quarter, or upon approval of instructor.
Investigation and discussion of social problems, ethics, and responsibilities in broadcasting.

RTV 4930 (BR 490) Special Study in Broadcasting. F, W, S.
Credits: 1 to 5; Prereq: Open only to Seniors and with permission of the instructor.
Variable content, providing opportunity for study in areas of Broadcasting such as Television Staging and Lighting, Film Criticism, Communication Theory and other fields. (May be repeated once for total of 6 credits.)

RTV 4950 (BR 496) Individual Projects in Radio, Television and Film. F, W, S, SS.
Credits: 1 to 5; Prereq: At least 15 hours of Broadcasting courses in the Upper Division and approval of the Dean.
Projects must also have the approval of the Broadcasting faculty. The student and the instructor concerned will choose a problem or project which will give the student experience in his major field.

RTV 4949 (BR 499) Co-op Work Experience. F, W, S, SS.
Credits: 1 to 5; Prereq: At least 15 hours of Broadcasting courses in the Upper Division and approval of the Dean.
Students and instructor concerned will select an appropriate work area related to the field of broadcasting or an appropriate communications area where the student may gain work experience and/or on-the-job training.

GRADUATE COURSES

EME 5506 (BR 518) Teaching Through Television. F, S, SS.
Credits: 5; Prereq: Senior or Graduate Standing.
For graduate courses in this area see listings under Communication.

BUILDING CONSTRUCTION

College of Architecture and Fine Arts

INSTRUCTIONAL STAFF 1976-77
Halperin, D.A., Chairman; Aderholdt, R.W.; Brackney, G.A.; Brown, B.H. Jr.; Crosland, R.E.; Eppes, B.G.; Grim, C., Jr.; Gunby, W.R.; Holland, H.F.; Johnson, L.A.; Krausche, C.E.; Martin, T.E.; Martin, W.T.; Pierce, D.R.; Tracey, V.G.; Trimmer, J.M.; Underberger, H.L.; Ziegler, C.D.

BCN 1210 (BCN 101) Construction Materials. F, W, S.
Credits: 4
Sources, properties and uses of construction materials.

BCN 3256 C (BCN 301) Construction Drawing. F, W, S.
Credits: 2; Prereq: AE 113.
Principles and practices of surveying and drawing applied to construction.

BCN 3431 (BCN 312) Structures 1. F, W, S, SS.
Credits: 4; Prereq: ESM 342.
Theory and principles of design of steel structural elements and connections and their applications in construction.

BCN 3461 (BCN 313) Structures 2. F, W, S, SS.
Credits: 4; Prereq: ESM 342.
Theory and principles of design of wood and timber structural elements and connections and their applications in construction.

BCN 3223 (BCN 321) Construction Techniques 1. F, W, S.
Credits: 5; Prereq: AE 113, BCN 101.
Study and analysis of job planning required, work methods, materials and equipment employed on light construction projects which include residential and small commercial buildings.

BCN 3224 (BCN 322) Construction Techniques 2. F, W, S, SS.
Credits: 5; Prereq: BCN 321.
Continuation of BCN 321, Construction Techniques 1, as applied to medium commercial and industrial construction projects.

BCN 3225 (BCN 323) Construction Techniques 3. F, W, S, SS.
Credits: 5; Prereq: BCN 322.
Continuation of BCN 322, Construction Techniques 2, as applied to heavy commercial and industrial construction projects.

BCN 3281 L (BCN 324) Construction Methods Laboratory. F, W, S.
Credits: 3; Prereq: MS 102.
Construction aspects of surveying with field and classroom exercises in the use of transit, level, chain and related equipment.

BCN 3611 (BCN 331) Quantity Surveying. F, W, S, SS.
Credits: 4; Prereq: BCN 322. Coreq: BCN 323.
Classification of work and quantity survey techniques applied to construction projects.

BCN 4012 (BCN 402) History of Construction. F, W, S, SS.
Credits: 4; Prereq: Junior standing.

BCN 4751 (BCN 403) Site Development. F, W, S, SS.
Credits: 4; Prereq: BCN 301, 323, 432, 452.
Principles and practices of residential, business and industrial land development.

BCN 4462 (BCN 414) Structures 3. F, W, S, SS.
Credits: 4; Prereq: BCN 312.
Theory and principles of design of reinforced concrete structural elements and their applications in construction.

BCN 4464 (BCN 415) Temporary Structures. F, W.
Credits: 4; Prereq: BCN 313, 323.
Design and erection of temporary construction structures.

BCN 4471 (BCN 416) Industrialized Building Techniques. S.
Credits: 4; Prereq.: Senior standing, BCN 322.
Study of industrialized construction techniques, designs and costs for American and foreign systems.

BCN 4227 (BCN 424) Construction Techniques 4. F, S.
Credits: 4; Prereq.: BCN 323
Advanced continuation of BCN 323, Construction Techniques 3.

BCN 4612 (BCN 432) Construction Estimating, F, W, S, SS.
Credits: 4; Prereq: BCN 331.
Analysis and determination of costs of construction operations including applicable indirect and overhead costs and the preparation of bid proposals for construction projects.

(BCN 433) Cost Estimate Analysis. F,S.
Credits: 4; Prereq: ATG 201, BCN 432.
Comparative analysis of actual and estimated costs as used for project control.

BCN 4500 (BCN 441) Environmental Technology 1. F, W, S, SS.
Credits: 4; Prereq: PS 202.
Principles and practices of building piping systems and consideration of code requirements and cost estimation.

BCN 4521 (BCN 443) Environmental Technology 2. F, W, S, SS.
Credits: 4; Prereq: PS 202.
Principles and practices of electrical systems and vertical transportation for buildings including code provisions and cost estimation.

BCN 4510 (BCN 445) Environmental Technology 3. F, W, S, SS.
Credits: 4; Prereq: PS 202, BCN 321, 441, 443.
Principles and practices of year-around air conditioning, ventilation and sound control in buildings including code provisions and cost estimation.

BCN 4700 (BCN 451) Construction Management 1. F, W, S, SS.
Credits: 4; Prereq: BA 402, BCN 322.
Management principles, methods and problems relating to construction.

BCN 4750 (BCN 452) Construction Management 2. F, W, S, SS.
Credits: 4; Prereq: BCN 451, ATG 201.
Continuation of Construction Management 1.

BCN 4710 (BCN 453) Construction Management 3. F, W, S, SS.
Credits: 4; Prereq: BCN 452.
Continuation of Construction Management 2.

BCN 4720 (BCN 454) Construction Planning and Control. F, W, S, SS.
Credits: 4; Prereq: CIS 302, BCN 432.
Time-cost relationships for the various construction operations.

(BCN 455) Construction Labor
Credits: 4; Prereq: Senior Standing and BCN 451
A history of the construction labor movement and other factors leading up to the present con-

struction labor market as it exists today, as well as an analysis of these problems from the view point of Construction Unions, Non-Union Construction Labor, legal and construction management.

GRADUATE COURSES

BCN 5463 (BCN 501) Construction Structures. F, W.
Credits: 4. Prereq: BCN 313, 323.

BCN 5226 (BCN 503) Advanced Construction Techniques. F, S.
Credits: 4; Prereq: BCN 323.

BCN 5620 (BCN 504) Construction Cost Analysis. F, S.
Credits: 4. Prereq: ATG 201, BCN 432.

BCN 5905 (BCN 505) Special Studies in Construction. F, W, S, SS.
Credits: 1 to 5, max. of 15; Prereq: Senior or graduate standing.

BCN 5470 (BCN 506) Systems of Architectural Construction. S.
Credits: 4. Prereq: BCN 322.

BCN 5528 (BCN 520) Survey of Construction Techniques. W
Credits: 5

BCN 6931 (BCN 601) Building Construction. F, W, S, SS.
Credits: 5 to 10.

BCN 6932 (BCN 602) Building Construction. F, W, S, SS.
Credits: 5 to 10.

BCN 6933 (BCN 603) Building Research. F, W, S, SS.
Credits: 5 to 10.

BCN 6934 (BCN 604) Building Research. F, W, S, SS.
Credits: 1 to 10.

BCN 6910 (BCN 697) Supervised Research.
Credits: 1 to 5††

BCN 6940 (BCN 698) Supervised Teaching.
Credits: 1 to 5††

BCN 6971 (BCN 699) Master's Research. F, W, S, SS.
Credits: 1 to 15††

BUSINESS ADMINISTRATION — GENERAL
College of Business Administration

INSTRUCTIONAL STAFF 1976-77
Jennings, R.B.; Ray, J.B.; Wyatt, J.W.

QMB 3700 (BA 300) Quantitative Methods for Business and Economic Analysis. F, W, S, SS.
Credits: 5; Prereq.: MS 301-302, STA 320 and ES 361.
Quantitative techniques and analysis for business and economic decision making under conditions of uncertainty, risks, and assumed certainty. Topics include some aspects of calculus, matrix algebra, probability theory, linear programming and game theory.

BUL 4101 (BA 401) Business Law. F, W, S, SS.
Credits: 5
Introduction to the legal system as an aspect of the business environment. Litigations; Legal Reasoning; the functions of a Legal System. Examples taken primarily from the Law of Contracts and Agency.

BUL 4121 (BA 402) Business Law. F, W, S, SS.
Credits: 5
A study of the fundamental principles governing the law of contracts, Commercial Paper, Documents of Title, Sales, Secured Transactions and related subject areas. Primary emphasis is given to the Uniform Commercial Code.

BUL 4305 (BA 403) Business Law. F, W, S, SS.
Credits: 4; Prereq.: BA 401 or BA 402.
Real and Personal Property, Mortgages and Liens, Landlord and Tenant, Wills, Trusts, Decedents' Estates, Bankruptcy, Agency Partnerships, Corporations.

CAP 4020 (BA 440) Computer Applications to Management Problems. F, W, S, SS.
Credits: 4; Prereq.: Senior standing in Business Administration and CIS 302, or consent of instructor.
The Appropriate utilization of the computer in the solution of Management problems.

MAN 4949 (BA 499) Co-op Work Experience. F, W, S, SS.
Credits: 3 to 5; Taken on S-U basis only. Prereq.: Consent of the Cooperative Education Coordinator and the Department Chairman.
Applied work in business administration. Requires several papers and reports. May be repeated with change of content up to a maximum of 10 credits.

GRADUATE COURSES
For admission to courses listed below, the student must have been admitted to the Graduate School and normally should have undergraduate courses in fields pertinent to the graduate courses selected; or where necessary, special arrangements may be made with the approval of the dean.

CAP 5021 (BA 540) Computer Based Business Management. F, W, S, SS.
Credits: 4

CAP 5001 (BA 560) Computer Concepts in Business.
Credits: 3

STA 5136 (BA 564) Introduction to Managerial Statistics.
Credits: 4

QMB 5805 (BA 591) Mathematical Methods and their Application to Business and Economic Analysis. F, S.
Credits: 5

ACC 6311 (BA 610) Managerial Accounting.
Credits: 4

FIN 6937 (BA 620) Advanced Finance Topics.
Credits: 4

MAR 6716 (BA 630) Problems and Methods of Marketing Management.
Credits: 4

STA 6606 (BA 661) Managerial Quantitative Analysis.
Credits: 5

STA 6357 (BA 664) Analysis of Decisions Under Uncertainty.
Credits: 3

STA 6358 (BA 665) Statistical Analysis for Managerial Decisions.
Credits: 3

MAN 6156 (BA 671) Human Behavior in Organizations.
Credits: 4

MAN 6108 (BA 673) Concepts and Methods in the Behavioral Science
Credits: 5

MAN 6721 (BA 679) Business Policy.
Credits: 4

(BA 690) Business Research and Reports.
Credits: 2

CAREER DEVELOPMENT PROGRAM
University College

INSTRUCTIONAL STAFF 1976-1977
Griffis, C.S., Director.

General Information

The Career Development Program offers students an opportunity to explore factors which will assist them in determining career and life choices. Courses are interdisciplinary and focus on a systematic process for value clarification, decision-making, goal setting, career options and techniques for the job search. Students design career patterns to meet their personal, educational and professional goals. Career opportunities in business, industry and government are viewed in terms of trends in the economy. Courses are offered for elective credit. No prerequisites are required.

STD 4151 (CDP 403) Career Development
Credits: 4
Exploration of factors which determine career and life choices, focusing on personal goals and values, college majors, and career opportunities in the fields of business, industry and government. Career patterns are designed to meet personal, educational and professional goals. Current trends in the economy are explored in the assessment of career opportunities.

STD 4905 (CDP 496) Independent Work.
Credits: 1 to 5.
Designed for students who wish to investigate a particular area of interest in career development. Also used for special topics courses. May be repeated with change of content.

CHEMICAL ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1976-77
Biery, J.C., Chairman; Bennett, R.B.; Block, S.S.; Brown, H.C.; De Gance, A.E.; Fahien, R.W.; Gordon, R.J.; Johns, L.E., Jr.; Kirmse, D.W.; May, F.P.; O'Connell, J.P.; Schweyer, H.E.; Shah, D.O.; Smutz, M.; Tyner, M.; Walker, R.D.

ECH 1001 (CHE 100) Freshman Seminar in Chemical Engineering. F, W, S.
Credits: 1 to 2, 1 to 2-1 hr dis.
Small group discussion with a faculty member interested in a field of chemical engineering endeavor. Consult department for particular subjects offered each term. May be repeated with change of content for a maximum of 4 credits.

ECH 3783 (CHE 300) Technology and Survival. F, W, S.
Credits: 3
Technological problems relating to the quality of life and survival in the world of today and tomorrow. Considered are the limits of mineral and energy resorces, population, food, pollution and environmental deterioration.

ECH 3023 (CHE 301) Introduction to Chemical Engineering. F, S.
Credits: 5, 5-1 hr. lec., 1-1 hr. dis. Prereq: PS 217, CY 213.
The conservation laws of mass and energy applied to the solution of industrial chemical process problems.

††Grading is on a S-U basis only.

Descriptions

ECH 3023 L (CHE 302) Chemical Engineering Lab 1. F, S.
Credits: 1, 1-1 hr. lec., 1-2 hr. lab.
Conservation laws, process measurements in engineering chemistry.

(CHE 303) Computer Model Formulation. F, S.
Credits: 3; 2-1 hr. lec., 1-2 hr. dis. Prereq: MS 304, Coreq: MS 305 or ESM 330.
Solutions of scientific and engineering problemsusing digital computers. Formulation of models for describing physical processes, numerical analysis, computer programming.

ECH 3803 (CHE 305) Chemistry in Engineering. F, W, S.
Credits: 4, 4-1 hr. lec.; Prereq: CY 212 or CY 203.
Application of the principles of chemistry in the solution of common engineering problems. Primarily for non-chemical engineering students.

ECH 3303 (CHE 311) Process Systems Analysis. W.
Credits: 2: 2-1 hr. lec.; 1-1 hr. dis.; Prereq: CHE 301, MS 305 or ESM 330.
Analysis of transients in process systems. Analog computation in chemical engineering.

ECH 3303 L (CHE 312) Chemical Engineering Laboratory 2. W.
Credits: 1, 1-1 hr. lec.; 1-3 hr. lab.; Prereq. or Coreq: CHE 311.
Laboratory work associated with CHE 311.

ECH 3109 (CHE 331) Seminar in Chemical Engineering Thermodynamics. F, W.
Credits: 2, 2-1 hr. rec.; Coreq: CY 452.
Discussion of chemical engineering applications of the first and second laws in systems of costant composition.

ECH 3101 (CHE 333) Chemical Engineering Thermodynamics 1. W.
Credits: 4
The principles of classical and statistical thermodynamics, and their application to systems of constant composition.

ECH 3264 L (CHE 344) Chemical Engineering Laboratory 4. W, S.
Credits: 1, 1-3 hr. lab.; Prereq. or Coreq: CHE 363.
Laboratory work associated with CHE 441.

ECH 3824 (CHE 353) Materials of Chemical Engineering. S.
Credits: 1 to 3. Prereq: CHE 431 and 433. Coreq: MSE 300.
Relations between microscopic structure and macroscopic mechanical, thermal, and electrical properties of organic and inorganic solids. Engineering applications, including corrosion.

ECH 3203 (CHE 363) Chemical Engineering Operations 1. W.
Credits: 3, 3:1 hr. lec.; Prereq: CHE 301, CHE 303.
Fluid mechanics of chemical engineering systems. Non-Newtonian flow. Mixer design. Fluidization. Filtration.

ECH 3204 (CHE 365) Chemical Engineering Operation:
Credits: Phr. lec.; Prereq: CHE 363.
Heat transfer and applications to heat exchanges, crystallization, drying.

ECH 3804 L (CHE 376) Chemical Engineering Laboratory 3. F, SS.
Credits: 2, 1-1 hr. lec., 1-3 hr. lab., 1-1 hr. dis. (5†); Prereq: CY 213.
Laboratory work and demonstrations of instrumentation for process measurement and control.

ECH 4842 (CHE 402) Mathematical Methods in Chemical Engineering. F.
Credits: 3, 3-1 hr. lec.; Prereq: CHE 365 or consent of instructor.*
The application of mathematics to chemical engineering calculations, including ordinary, and partial differential equations. Numerical, analytical and computer calculations.

ECH 4323 (CHE 411) Process Control Theory. S.
Credits: 3, 3-1 hr. lec. (40†), 1-1 hr. dis. (20†); Prereq: CHE 311, CHE 303, or consent of instructor.
Available for graduate major credit. The analysis and automatic control of simple process systems in chemical engineering.

ECH 4323 L (CHE 412) Chemical Engineering Laboratory 5. S.
Credits: 1, 1:3 hr. lab. (15†); Coreq: CHE 411.
Laboratory work associated with CHE 411.

ECH 4624 (CHE 413) Process Opimization. W.
Credits: 3, 3-1 hr. lec. (40†); Prereq: 4EG Classification.
A review of mathematical techniques for handling multistage decision problems encountered in process design and control. Introduction to dynamic programming.

ECH 4504 (CHE 421) Chemical Kinetics and Processing. F.
Credits: 3, 3-1 hr. lec., 1-1 hr. dis.; Prereq: CHE 433, Coreq: CHE 441.
Concepts of elementary, complex and catalytic kinetics as applied to the engineering design of batch, backmix, tubular and fluidized bed reactors.

ECH 4504 L (CHE 422) Chemical Engineering Laboratory 7. F, W.
Credits: 2, 1-3 hr. lab. Prereq. or Coreq: CHE 421.
Laboratory work associated with CHE 421.

ECH 4524 (CHE 423) Reactor Dynamics and Design. S.
Credits: 3, 1-1 hr. lec. (40†), 2-1 hr. dis. (15†); Prereq: CHE 421, CHE 442.
Analysis of chemical reactor transient behavior and stability. Pilot plant models and scale up methods. Introduction to optimal design and its application.

ECH 4144 (CHE 431) Molecular Phenomena in Chemical Engineering. W.
Credits: 4, 2-1 hr lec (40†), 2-1 hr dis (15†); Prereq.; CHE 433
Basic statistical mechanical relations for equilibrium and nonequilibrium properties of real systems. Intermolecular forces. Properties at surfaces and interfaces.

ECH 4123 (CHE 433) Chemical Engineering Thermodynamics 2. S.
Credits: S. Prereq.: CHE 331 or 333.
The application of thermodynamic principles to systems of variable composition, including the study of phase and chemical equilibria.

ECH 4145 (CHE 435) Applied Molecular Theory. S.
Credits: 3, 3-1 hr. lec., Prereq.: CHE 433.
The application of statistical thermodynamics and kinetic theory in the description of the behavior of pure fluids and fluid mixtures.

ECH 4264 (CHE 441) Elementary Transport Phenomena. F.
Credits: 3, 3-1 hr. lec., 1-1 hr. dis.; Prereq.: Senior standing and permission of instructor.
Flux laws and conservation equations for heat, mass and momentum transport in rectangular, cylindrical and spherical geometries; applications to laminar and turbulent flow systems.

ECH 4281 (CHE 442) Multidirectional Transport Phenomena. W.
Credits: 2 to 4.
Equations of change for energy, mass, and momentum transport in vector form applied to multidirectional problems.

ECH 4012 (CHE 445) Elements of Chemical Engineering 1. W.
Credits: 3, 3-1 hr. lec.; Coreq.: CY 213, PS 217, MS 305 or ESM 330.
A survey of chemical engineering.

ECH 4705 (CHE 448) Electrochemical Engineering. S.
Credits: 3, 3-1 hr. lec.; Coreq.: CHE 353 or MSE 300.*
Application of the principles of transport phenomena and mass transfer theory to the analysis of electro chemical processes, and to problems of scale-up and design.

ECH 4724 (CHE 449) Interfacial Phenomena for Engineers. S.
Credits: 3, 3-1 hr. lec., 1-1 hr. dis.; Prereq.: CY 201 or consent of instructor.
Theoretical and practical aspects of interfaces and surfactants in wetting, solubilization, foams, and emulsions, lubrication, flotation of minerals, and biomedical applications.

ECH 4825 (CHE 451) Polymeric Materials. S.
Credits: 3, 3-1 hr. lec.; Prereq.: CHE 353 or MSE 300.*
Theoretical and practical aspects of plastics, elastomers, fibers, coatings and other polymeric materials.

ECH 4704 (CHE 452) Organic Chemical Processing. W.
Credits: 3, 3-1 hr. lec.; Prereq.: Organic Chemistry.*
The fundamental principles involved in the manufacture of organic compounds.

ECH 4224 L (CHE 462) Chemical Engineering Operations Laboratory 1. F, SS.
Credits: 3, 1-1 hr. dis., 1-2 hr. dis., 1-4 hr. lab (6 †); Coreq.: CHE 365.
Laboratory work in unit operations involving heat and momentum transfer.

ECH 4403 (CHE 463) Chemical Engineering Operations 3. F.
Credits: 3, 3-1 hr. lec., 1-1 hr. dis.; Prereq.: CHE 363.
Theory, design, and evaluation of diffusional mass transfer processes including distillation, absorption and extraction.

ECH 4404 L (CHE 464) Chemical Engineering Operations Laboratory 2. W, S.
Credits: 3, 1-1 hr. dis., 1-2 hr. dis., 1-4 hr. lab.; Prereq.: CHE 462, CHE 463.
Laboratory work in unit operations involving mass transfer.

ECH 4604 (CHE 471) Cost Estimation of Process Designs, W.
Credits: 3, 2-1 hr. lec., 1-3 hr. lab.; Prereq: CHE 463.
Investment requirements, cost estimates and profitability analyses of chemical processes for design and development. Case study design problems in preparation for CHE 473.

ECH 4644 (CHE 473) Process Design. S.
Credits: 3, 2-1 hr. lec., 1-3 hr. lab.; Prereq.: CHE 421, CHE 463, CHE 471.
Elementary design of conventional processes, including selection of process, equipment sizing, process specifications, economic evaluation, safety in design.

ECH 4664 (CHE 475) Advanced Process Design. SS, F.
Credits: 3, 2-1 hr. lec., 2-1 hr. dis.; Prereq.: CHE 473.
An extension of CHE 473 involving more creative effort and less conventional process systems.

ECH 4605 (CHE 476) Process Eonomics. S.
Credits: 3, 3-1 hr. lec.; Prereq.: Senior classification.
Engineering economy principles in the chemical field. Time value of money and profitability. Linear programming and replacements. Chemical industry economics and finance, computer applications.

ECH 4934 (CHE 481) Professional Seminar. F, S.
Credits: 1, 1-1 hr. lec.

ECH 4221 L (CHE 492) Chemical Engineering Laboratory 9. F, W, S.
Credits: 1, 1-3 hr. lab.; Prereq.: CHE 462.
Individual laboratory work not necessarily associated with a particular course.

ECH 4905 (CHE 496) Special Problems in Chemical Engineering. F, W, S, SS.
Credits: 1 to 6. May be repeated for a maximum of 12 credits.

ECH 4944 (CHE 497) Practical Work in Chemical Engineering. F, W, S, SS.
Credits: 1 to 5.

(CHE 499) Co-op Work Experience. F, W, S, SS.
Credits: 1 to 5 per registration for a maximum of 5. Prereq.: Freshman year.
Practical co-op work experience under approved industrial supervision, as set forth in College Regulations.

GRADUATE COURSES

ECH 5344 L (CHE 512) Process Systems Laboratory. W.
Credits: 3.

(CHE 546) Physics & Physical Chemistry of Polymers. F.
Credits: 3; [Identical with CY 546 and MSE 546].

CHM 5272 (CHE 561) The Organic Chemistry of Polymers.
Credits: 3; [Identical with CY 561].

ECH 5708 (CHE 577) Disinfection, Sterilization, and Preservation. W.
Credits: 3

ECH 6926 (CHE 601) Graduate Seminar. F, W, S.
Credits: 1

ECH 6844 (CHE 602) Chemical Engineering Calculations.
Credits: 2

ECH 6845 (CHE 603) Models and Methods. W.
Credits: 3

ECH 6846 (CHE 604) Multidimensional and Discrete Systems. F.
Credits: 3

ECH 6847 (CHE 605) Applied Field Theory.
Credits: 3

ECH 6848 (CHE 606) Applied Statistics and Probabilistic Systems.
Credits: 3

ECH 6306 (CHE 610) Process Dynamics 1. S.
Credits: 3

ECH 6307 (CHE 611) Process Dynamics 2. W.
Credits: 3

ECH 6326 (CHE 614) Computer Control of Processes.
Credits: 3

ECH 6626 (CHE 615) Optimization Techniques.
Credits: 3

ECH 6627 (CHE 616) Process Systems Optimization.
Credits: 3

ECH 6666 (CHE 617) Design Techniques for Process Systems. S.
Credits: 3

ECH 6506 (CHE 621) Chemical Engineering Kinetics.
Credits: 3

ECH 6526 (CHE 622) Reactor Design and Optimization.
Credits: 3

ECH 6296 (CHE 626) Transport Properties and Irreversible Thermodynamics.
Credits: 3

ECH 6126 (CHE 631) Thermodynamics of Reaction and Phase Equilibria. F.
Credits: 3

ECH 6146 (CHE 632) Applied Statistical Mechanics.
Credits: 3

ECH 6147 (CHE 633) Statistical Thermodynamics. W.
Credits: 3

ECH 6261 (CHE 640) Introduction to Transport Phenomena. F.
Credits: 3

ECH 6285 (CHE 641) Tranport Phenomena. W.
Credits: 3

ECH 6286 (CHE 642) Interfacial Transport Phenomena.
Credits: 3

ECH 6206 (CHE 643) Turbulent Transport Phenomena.
Credits: 3

ECH 6263 (CHE 644) Advanced Transport Phenomena. S.
Credits: 3

ECH 6207 (CHE 645) Rheology.
Credits: 3

ECH 6208 (CHE 646) Non-Newtonian Fluid Dynamics.
Credits: 3

ECH 6706 (CHE 647) Chemical Energy Conversion.
Credits: 3

ECH 6766 (CHE 648) Particulate Systems.
Credits: 3

ECH 6826 (CHE 650) Engineering Properties of Organic Materials.
Credits: 3

ECH 6827 (CHE 651) Macromolecular Materials.
Credits: 3

ECH 6406 (CHE 662) Mass Transfer Operations.
Credits: 3

ECH 6226 (CHE 663) Heat Transfer Operations.
Credits: 3

ECH 6413 (CHE 665) Stagewise Separations Processes.
Credits: 3

ECH 6707 (CHE 671) Process Engineering.
Credits: 3

ECH 6646 (CHE 672) Process Equipment Design.
Credits: 3

ECH 6647 (CHE 673) Process and Plant Design.
Credits: 3

ECH 6606 (CHE 676) Process Economy Analysis.
Credits: 3

ECH 6746 (CHE 677) Biochemical Engineering.
Credits: 3

ECH 6726 (CHE 678) Interfacial Phenomena 1.
Credits: 3

ECH 6727 (CHE 679) Interfacial Phenomena 2.
Credits: 3

ECH 6936 (CHE 680) Advanced Seminar in Chemical Engineering.
Credits: 2. Maximum of 6 credits.

ECH 6328 (CHE 681) Seminar in Process Control.
Credits: 2. Maximum of 6 credits.

ECH 6269 (CHE 682) Seminar in Transport Phenomena.
Credits: 2. Maximum of 6 credits.

ECH 6159 (CHE 683) Seminar in Thermodynamics.
Credits: 2. Maximum of 6 credits.

ECH 6428 (CHE 685) Advances in Separations Processes.
Credits: 3

ECH 6688 (CHE 686) Advances in Process Systems Engineering.
Credits: 3

ECH 6849 (CHE 687) Advances in Numerical and Analytical Computation.
Credits: 3

ECH 6937 (CHE 690) Special Topics in Chemical Engineering 1.
Credits: 1 to 6. Maximum of 12 credits.

ECH 6939 (CHE 692) Special Topics in Chemical Engineering 3.
Credits: 1 to 6. Maximum of 12 credits.

ECH 6906 (CHE 696) Individual Work.
Credits: 1 to 9.

ECH 6916 (CHE 697) Supervised Research.
Credits: 1 to 5††

ECH 6946 (CHE 698) Supervised Teaching.
Credits: 1 to 4††

ECH 6971 (CHE 699) Master's Research.
Credits: 1 to 15††

ECH 7980 (CHE 799) Doctoral Research.
Credits: 1 to 15††

CHEMISTRY

College of Arts & Sciences

INSTRUCTIONAL STAFF 1976-77

Muschlitz, E.E., Jr., *Chairman;* Bates, R.G.; Battiste, M.A.; Baxter, J.F.; Brey, W.S., Jr.; Brown, H.C.; Butler, G.B.; Colgate, S.O.; Deyrup, J.A.; Dolbier, W.R., Jr.; Dresdner, R.D.; Eyler, J.R.; Gabbay, E.J.; Hanrahan, R.J.; Helling, J.F.; Hogen Esch, T.E.; Jones, W.M.; King, R.W.; Laitinen, H.A.; Li, K.P.; Lowdin, P.O.; Micha, D.A.; Muga, M.L.; Myers, G.H.; Ohrn, N.Y.; Palenik, G.J.; Person, W.B.; Reid, C.E.; Ryschkewitsch, G.E.; Schmid, G.M.; Sisler, H.H.; Stoufer, R.C.; Tarrant, P.; Vala, M.T.; VanderWerf, C.A.; Weltner, W., Jr.; Winefordner, J.D.; Zoltewicz, J.A.

All *Chemistry Majors* must complete at least the following *Minimum Program* (which may include equivalent transfer course work): CY 202-203-204-331 or CY 211-212-213-331 or CY 231-232-330 and CY 381-382-384-38S and CY 341-342-343-433-434 or CY 341-342-343-43S-436 or CY 451-452-453-454.

An identical number of credits in CY 410 may be substituted for CY 343, CY 385, CY 434, CY 436 and/or CY 4S4.

Completion of the above courses and their prerequisites and a general physics sequence will satisfy the minimum requirements of the College of Arts and Sciences for a major in chemistry. Any language acceptable to the College of Arts and Sciences is appropriate for this minimum program.

A.C.S. Certified Program: To receive American Chemical Society certification and an adequate

††Grading is on a S-U basis only.

preparation for the profession, a student should obtain credit for: CY 202-203-204-331 or CY 211-212-213-331 or CY 231-232-330; CY 381-382-384-385; CY 433-434 or 435-436; CY 451-452-453-454; CY 410 (1 credit); CY 411 or CY 578; CY 475 or 465; and six additional hours of advanced chemistry including at least one laboratory course. Corresponding honors courses may be substituted. Note that additional credit in CY 410 may be used to substitute for CY 343, 385, 434, 436, and/or 454 on a credit-for-credit basis.

The language requirement must be met in German, French or Russian. The student is advised, when possible, to complete the following or their equivalent during the first two years: six quarters of chemistry, PS 215-216-217-225-226-227 and MS 301-302-303-305.

Preprofessional students: (pre-med, pre-dent., etc.) Normally complete the minimum program and additional courses chosen with the help of the adviser. They are also normally advised to obtain credit for MS 301-302-303, PS 211-212-213-222-223 or PS 215-216-217-225-226-227, ZY 310 and 570 and/or 574. Any language acceptable to the College of Arts and Sciences is appropriate for the minimum program and preprofessional requirements.

Premedical and predental students are advised to *not* take CLEP exams in physical sciences, biological sciences, and fundamental mathematics as these would generate credits below the level at which such students would normally be taking courses. In a competitive program it is important to present a sound overall record. Those choosing to take CLEP exams in English, humanities, and social sciences should also complete some additional course credits in these areas above the general education level.

Chemistry Education Program: Students wishing to receive a degree in Chemistry through the College of Arts and Sciences while simultaneously obtaining accreditation for teaching secondary school chemistry should complete the minimum program above and the following education courses: EDF 342; EDF 300 or 320 or 410 or 431; EDS 400; EDS 403; EDS 464; EDS 405. A maximum of 24 credits of this 40 credits of education work may count toward the 90 credit A & S upper division requirement. Students must make applications for admission to the several phases of the Teacher Education Program as outlined in the College of Education section of this catalog.

For additional information, see College of Arts and Sciences Entrance requirements or Dr. G.H. Myers in 340 Leigh Hall.

Baccalaureate Honors: Honors will be awarded to chemistry majors who earn an overall upper division grade point average of 3.3 or higher and a 3.3 average or higher in all chemistry work attempted, exclusive of CY 498, complete CY 411, CY 465, 475, or any 500 level chemistry course with at least a B grade, and complete a minimum of 10 hours of CY 498 (Senior Research). In addition a thesis based on the research project must be presented to the department of chemistry along with the recommendation of the student's research supervisor. This thesis must contain both discussion and experimental results. The research will normally be carried out under the direction of a member of the chemistry faculty. With departmental approval, a problem that is chemical in nature may be conducted outside the chemistry department. The student should see Dr. J.A. Deyrup in 328A Chemistry Research Building to obtain approval for this option.

Entry into this honors program requires prior agreement between the student and his proposed research supervisor on the nature and duration of the research project.

General Chemistry: The following general chemistry sequences are offered: CY 101-102, CY 201-202-203-204, CY 211-212-213, CY 221-222-223, CY 231-232-330.

CY 101-102 is a terminal course not open to science and engineering students.

CY 201-202-203-204 is a rigorous four quarter sequence open to all students. If a student elects this sequence in preference to others, the student is committed to remain in this sequence to complete the general chemistry requirement. This course is similar in course content to CY 211-212-213 but proceeds at a slower pace. It is designed for students with a weaker background in high school chemistry and who score under 1080 on the Scholastic Aptitude Test (SAT).

CY 211-212-213 is *recommended* for but not necessarily *limited* to students who have an adequate background in chemistry, mathematics and physics. A minimum score of 85 (530 SAT) on the mathematics portion of the Florida 12th grade testing program and a minimum total score of around 420 in the five divisions of the same test (or 1080 SAT) can be considered as a guide in counseling. This course is open to any student who has the motivation and enjoys the challenge of a mainstream general chemistry course.

CY 221-222-223 is the general chemistry honors sequence for which students may enroll only through the invitational honors program, or with the special permission of the Department of Chemistry.

CY 231-232-330 is a three quarter (15 hour) integrated general — quantitative analysis sequence. It is open to all students who intend to register for organic chemistry CY 381-382, or other advanced chemistry courses. By taking this sequence a student can complete the preprofessional requirement — medicine, dentistry, pharmacy, veterinary medicine, certain areas of engineering — much more rapidly and leave time for desired electives. This course covers the equivalent of the topical matter in each of the other general chemistry courses plus that in CY 331. *Freshmen,* who intend to register for this sequence should have scored over 1120 in the SAT with not less than 560 on the Mathematics or English portion of the test.

Transfer students from out of state or from Florida Community Colleges who have had some previous chemistry should consult with the General Chemistry Office before attempting to register for a general chemistry course. Questions relating to the general chemistry program should be directed to the General Chemistry Office in 242 Leigh Hall. Phone 392-0558. Chemistry majors should consult with Dr. G.H. Myers in 340 Leigh Hall.

Most transfer students who have completed one semester or one or two quarters at another university or community college should register for the CY 201 sequence, rather than the CY 211 or CY 231 sequence.

Generally, students trying to choose between the various sequences are advised that primarily English and Mathematics scores are much more meaningful than science scores in beginning chemistry. A student with an English score below 500 in the SAT will face difficulties in any of the sequences.

Honors Courses: The chemistry department offers honors sequences paralleling its 200 and 300 level courses which offer superior students smaller classes and a more individualized and intensive educational opportunity. The various honor sequences are not prerequisite for each other—for example, one may apply for Organic Chemistry Honors after having completed any of the General Chemistry sequences. Students with above average performance records are encouraged to apply for enrollment in these courses. A number of 400 and 500 level courses are offered each year which are appropriate for Junior and Senior students. Seniors may also apply to take graduate (600 level) courses. Because of the size of the department and its active graduate program, a wide variety of opportunities exists for undergraduates to take advanced level coursework and to conduct research.

Priority System: In instances where the demand for enrollment exceeds the capacity of the available facilities and chemistry staff, a priority system will be used. The system favors those students making satisfactory progress through a particular course sequence. First priority will be given to students attempting to register for a course for the first time and, for second and subsequent courses, to those who have completed the preceding course with a grade of C or better. Second priority will be given to students repeating a course and to those who have completed the preceding course with a grade of D. Whenever this system needs to be implemented only students with first priority will be permitted to add on the first day of the drop/add period on a space available basis. In extreme cases it may be necessary to displace previously registered students with second priority.

CHM 1020 C (CY 101) Chemistry and Society. W.
Credits: 4
The first half of the CY 101-102 sequence. A terminal course for non-science students that presents chemistry and its relation to, and effects on, modern society. Topics in inorganic, organic, bio and environmental chemistry.

CHM 1021 (CY 102) Chemistry and Society. S.
Credits: 4
The second half of CY 101-102.

CHM 2040 (CY 201) Introductory General Chemistry. F, W, SS.
Credits: 4; Prereq.: MS 102 or equivalent required.
The first quarter of the CY 201-202-203-204 sequence. An introduction to the elementary principles of modern chemistry, including concepts of science, stoichiometry, atomic and molecular structure, and chemical bonding. Designed for students who require or prefer a slower pace than that followed in the sequence that begins with CY 211. Unless a student has taken three years of high school mathematics and achieved a score of 530 or higher in the mathematics portion of the SAT, it is required that MS 102 be taken prior to this course. This course is to be followed by CY 202 but this will be allowed only if a grade of "C" or better has been earned in CY 201.

CHM 2041 C (CY 202) General Chemistry. W, S.
Credits: 4; Prereq: CY 201 or its equivalent with a grade of C or better.
The second quarter of the CY 201-202-203-204 sequence. Principles of chemistry, the gaseous, liquid, and solid states, solutions and their colligative properties, and chemical kinetics. Related laboratory experiments.

CHM 2042 C (CY 203) General Chemistry and Qualitative Analysis. F, S, SS.
Credits: 4; Prereq: CY 202.
Third quarter of the CY 201-202-203-204 sequence. Principles of chemical equilibrium, acids and bases, oxidation/reduction reactions, chemistry of the pre-transition metals. Laboratory experiments in chemical equilibrium and qualitative analysis of cations and anions.

CHM 2043 C (CY 204) General Chemistry and Qualitative Analysis. F, W, SS.
Credits: 4; Prereq: CY 203
Final quarter of the CY 201-202-203-204 sequence. Chemistry of transition and post-transition metals, complex ions, non-metals, introduction to organic chemistry. Laboratory experiments involving the separation and detection of cations in aqueous solution.

CHM 2045 C (CY 211) General Chemistry. F, W.
Credits: 4.
It is *recommended* that students who enroll for this course have an adequate background in high school chemistry, mathematics and some physics. As a guide the student should have

achieved a score of around 530 on the mathematics portion of SAT and a combined score of 1080 in SAT.

Students who have never enrolled for CY 201 or its equivalent or who have had no chemistry for a number of years should not enroll in this course without consulting the General Chemistry Office. If there is any doubt of the student's fitness for this course the General Chemistry Office in 242 Leigh Hall should be consulted. First quarter of the CY 211-212-213 sequence: Principles of chemistry, atomic and molecular structure, chemical bonding, stoichiometry, the properties and structure of gases, liquids and solids. Related laboratory experiments.

CHM 2046 C (CY 212) General Chemistry and Qualitative Analysis. W, S.
Credits: 4; Prereq: CY 211.
Second quarter of CY 211-212-213 sequence. Continuation of chemical principles, solutions and their colligative properties, chemical kinetics, chemical equilibrium and electrochemistry; the descriptive chemistry of some elements. Related laboratory experiments in acid-base chemistry and qualitative analysis of some cation and anions.

CHM 2047 C (CY 213) General Chemistry and Qualitative Analysis. S, SS.
Credits: 4; Prereq: CY 212.
Third quarter of the CY 211-212-213 sequence. Systematic chemistry of the metals and nonmetals, the chemistry of complex ions, elements of organic chemistry. Qualitative analysis of selected cations and anions.

CHM 2050 C (CY 221) General Chemistry Honors. F.
Credits: 4.
First course of the sequence CY 221-222-223 which has the same goals as the sequence CY 211-212-213, but is open mainly to students with a very good background, who desire a chemistry course with more depth. Enrollment in this course is achieved only through the *invitational honors program* or with the permission of the department of chemistry. This course is offered in the Fall quarter, only.

CHM 2051 C (CY 222) General Chemistry Honors. W.
Credits: 4; Prereq: CY 221 or special permission of the department of chemistry.
Second quarter of the CY 221-222-223 sequence.

CHM 2052 C (CY 223) General Chemistry Honors. S.
Credits: 4; Prereq: CY 222.
Third quarter of the sequence CY 221-222-223.

CHM 2055 C (CY 231) Chemical Principles. F.
Credits: 5
Open to students who need to take more than a course in general chemistry. This is an integrated general-quantitative analysis course that allows the well motivated student to complete general, analytical and organic chemistry in 5 quarters. It is recommended for students majoring in chemistry, certain chemistry oriented areas of engineering, zoology, pharmacy and premedical, predental, preveterinary medical students. The topical material in the CY 231-232-330 sequence is similar to that covered in the other general chemistry sequences and CY 331.

CHM 2056 C (CY 232) Principles of Chemistry and Qualitative Analysis. W.
Credits: 5; Prereq.: CY 231 (No exceptions).
The second quarter of the sequence CY 231-232-330. A continuation of chemical principles and the chemistry of the metals and nonmetals. The laboratory will emphasize the qualitative analysis of various cations and anions.

CHM 3120 C (CY 331) Quantitative Analysis. F, W, S, SS.
Credits: 5; Prereq.: CY 204 or 213.
Principles and laboratory techniques involved in quantitative analysis. Topics include: acid-base equilibria and titrations; precipitation and complex formation; oxidation-reduction; statistical treatment of data; sampling methods.

CHM 3125 C (CY 332) Quantitative Analysis — Honors. W.
Credits: 5; Prereq.: Three quarters of college chemistry or its equivalent and consent of instructor.
This course will cover the subject material of CY 331 in greater depth.

CHM 3400 (CY 341) Physical Chemistry. F, W, S.
Credits: 4; Prereq.: CY 331, MS 302. Coreq.: CY 381 or 362.
The first half of the course CY 341-342. Properties of solutions, chemical equilibrium, pH, the colloidal state; particular emphasis on biochemical applications. Designed primarily for students of medicine, pharmacy, biology and related fields.

CHM 3401 (CY 342) Physical Chemistry. W, S, SS.
Credits: 3; Prereq.: CY 341.
The second half of the course CY 341-342.

CHM 3401 L (CY 343) Physical Chemistry Laboratory. W, S, SS.
Credits: 1; Coreq.: CY 342.
A series of laboratory experiments designed to accompany CY 342.

CHM 3200 (CY 362) Organic Chemistry. F, SS.
Credits: 4; Prereq.: CY 204 or 213. Coreq.: CY 363.
A brief elementary course embracing the more important aliphatic and aromatic compounds. (This lecture course may not be taken without the corresponding laboratory course without permission of the Chairman of the Chemistry Department, unless the student is majoring in physics or chemical engineering.)

CHM 3200 L (CY 363) Organic Chemistry Laboratory. F, SS.
Credits: 2; Coreq.: CY 362.
Organic laboratory experiments to accompany CY 362.

CHM 3210 (CY 381) Organic Chemistry. F, W, S, SS.
Credits: 4; Prereq.: CY 204, 213, 223, or 330.
The first half of the CY 381-382 sequence. A study of the structures, syntheses and reactions of organic compounds.

CHM 3211 (CY 382) Organic Chemistry. F, W, S, SS.
Credits: 3; Prereq.: CY 381.
The second half of the CY 381-382 sequence.

CHM 3210 L (CY 384) Organic Chemistry Laboratory. F, W, S, SS.
Credits: 1; Coreq.: CY 381.
Organic Laboratory experiments to follow CY 381.

CHM 3211 L (CY 385) Organic Chemistry Laboratory. F, W, S, SS.
Credits: 2; Prereq.: CY 384.
Organic Lab.

CHM 3215 (CY 387) Organic Chemistry — Honors. F, W.
Credits: 4; Coreq.: CY 384. Prereq.: three quarters of college chemistry or its equivalent and consent of instructor.
This course will cover the subject material of CY 381 in greater depth.

CHM 3216 (CY 388) Organic Chemistry — Honors. W, S.
Credits: 3; Prereq.: CY 387, Coreq.: CY 385.
This course will cover the subject material of CY 382 in greater depth.

CHM 3219 (CY 389) Organic Chemistry. SS.
Credits: 9; Prereq.: CY 204, CY 213, CY 223, CY 330 or equivalent. Complete 1 year college chemistry course including Qualitative Analysis; Coreq.: CY 384 and CY 385.
A study of the structures; reactions and synthesis of organic compounds. CY 389 with CY 384 and CY 385 constitute a complete organic chemistry course and as such, are suitable for students majoring in Chemistry, certain chemistry oriented areas of Engineering, Zoology, Pharmacy, and premedical, predental, preveterinary medical students. The topical material covered in CY 389 is essentially identical to that covered in CY 381 and CY 382.

CHM 4740 L (CY 410) Integrated Laboratory. F, W, S, SS.
Credits: 1 to 5; Prereq.: CY 331 and CY 384 or equivalent.
A course designed to present a unified approach to advanced organic, physical-chemical, and instrumental analytical laboratory techniques. Laboratory program may be tailored to the student's requirements. May be repeated for additional credit.

CHM 4610 (CY 411) Inorganic Chemistry. S.
Credits: 4; Prereq.: 13 quarter hours 300 level or higher chemistry courses including either CY 341 or CY 451.
Periodic properties and reactivities of the elements. Inorganic stereochemistry. Ionic compounds and the crystalline state. Acid-base chemistry.

CHM 4130 (CY 433) Instrumental Analysis. W, SS.
Credits: 3; Prereq.: CY 331 or its equivalent, MS 302 and PS 212 or equivalent.
Principles and laboratory techniques involved in electrochemical methods of analysis and in chromatographic separation.

CHM 4130 L (CY 434) Instrumental Analysis Laboratory. F, S.
Credits: 2; Prereq.: CY 433, no exceptions; MS 302 and PS 212.
Principles and laboratory techniques involved in electrochemical methods of analysis.

CHM 4131 (CY 435) Instrumental Analysis. F, S.
Credits: 3; Prereq.: CY 331 or its equivalent, MS 302 and PS 212 or equivalent.
Principles and laboratory techniques involved in chromatographic separation and emission and absorption spectrochemical methods of analysis.

CHM 4131 L (CY 436) Instrumental Analysis Laboratory. W, SS.
Credits: 2; Prereq.: CY 435, no exceptions, MS 302 and PS 212 or equivalent.
Principles and laboratory techniques involved in chromatographic separation and emission and absorption spectrochemical methods of analysis.

CHM 4410 (CY 451) Physical Chemistry. W.
Credits: 3; Prereq.: PS 217. Coreq.: MS 305.
Introduction to quantum theory, atomic and molecular structure, chemical bonding.

CHM 4411 (CY 452) Physical Chemistry. F.
Credits: 4; Prereq.: PS 217. Coreq.: MS 305.
Chemical thermodynamics, solutions, homogeneous and heterogeneous equilibria, electrochemistry.

Note CY 451 and CY 452 may be completed in either order, although it is recommended that CY 452 by taken first.

CHM 4412 (CY 453) Physical Chemistry. S.
Credits: 3; Prereq.: CY 451 and CY 452.
Chemical statistics, kinetic theory, chemical kinetics.

CHM 4411 L (CY 454) Physical Chemistry Laboratory. F, W, S.
Credits: 2; Prereq.: either CY 451 or CY 452.
A series of laboratory experiments designed to accompany CY 451-452.

CHM 4412 L (CY 455) Physical Chemistry Laboratory. S.
Credits: 2; Prereq.: CY 454. Coreq.: CY 453.
A series of laboratory experiments designed to accompany CY 453.

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CHM 4230 (CY 465) Organic Chemistry. S.
Credits: 3; Prereq.: CY 382.
Characterization and structure proof of organic compounds by spectral methods, including IR, UV, NMR and mass spectrometry.

CHM 4230 L (CY 466) Organic Chemistry Laboratory. S.
Credits: 2, Prereq.: CY 385, Coreq.: CY 465.
The qualitative identification of organic compounds through the combined use of spectroscopic and chemical methods.

CHM 4380 (CY 475) Current Topics in Organic Chemistry. F.
Credits: 3; Prereq.: CY 382 or 388.
Modern synthetic reactions, molecular rearrangements, elements of physicalorganic chemistry, heterocyclic compounds, organic chemistry of the second row elements, natural products, pericyclic reactions, free radical chemistry, and photochemistry.

CHM 4060 (CY 481) Chemical Literature. F.
Credits: 1; Prereq.: 3 years of chemistry.
A reading knowledge of French and German is desirable. The present sources of published chemical information.

CHM 4905 (CY 496) Individual Problems. F, W, S, SS.
Credits: 2 to 5; Prereq.: permission of the faculty member supervising the work.
May be repeated for additional credit. Double registration permitted. An assigned reading program or the development of an assigned experimental problem.

CHM 4910 (CY 498) Senior Research. F, W, S, SS.
Credits: 2 to 5; Prereq.: or coreq.: CY 481, Senior standing and consent of instructor.
Laboratory or literature investigations of chemical problems of current interest. May be repeated for additional credit.

GRADUATE COURSES

CHM 5157 (CY 533) Analytical Processes.
Credits: 4. Prereq.: CY 331 and CY 452.

CHM 5413 L (CY 543) Advanced Physical Chemistry Laboratory. SS.
Credits: 3; Prereq.: CY 455.

CHM 5514 (CY 545) Chemical Computation. SS.
Credits: 3; Prereq.: CY 453 and a knowledge of FORTRAN Programming.

CHM 5511 (CY 546) The Physics and Physical Chemistry of Polymers. S.
Credits: 3; (identical with CHE 546 and MSE 546) Prereq.: CY 452 or equivalent.

CHS 5110 (CY 550) Radiochemistry. S.
Credits: 3; Prereq.: CY 342, or CY 453, or consent of instructor.

CHS 5110 L (CY 551) Radiochemistry Laboratory. S.
Credits: 2; Prereq.: CY 331 and CY 342, or CY 453, or consent of instructor.

CHM 5272 (CY 561) The Organic Chemistry of Polymers. W.
Credits: 3; (identical with CHE 561) Prereq.: CY 381, 362 or equivalent.

CHM 5235 (CY 565) Organic Spectroscopy. F.
Credits: 3; Prereq.: CY 382.

CHM 5300 (CY 578) Chemistry of Biological Molecules, S.
Credits: 4; (ident. with BCH 578), Prereq.: Organic Chemistry (CY 382 or CY 388); and Physical Chemistry (CY 453 or CY 342) or consent of instructor.

CHM 5907 (CY 596) Individual Problems, Advanced. F, W, S, SS.
Credits: 3 to 5; Prereq.: permission of the faculty member supervising the work.

CHM 6470 (CY 601) Chemical Bonding and Spectra. 1.
Credits: 4

CHM 6471 (CY 602) Chemical Bonding and Spectra. 2.
Credits: 2 to 4

CHM 6140 (CY 604) Advanced Research Techniques in Chemistry.
Credits: 2 to 5.

CHM 6935 (CY 605) Chemistry Colloquium.
Credits: 1 to 2††

CHM 6155 (CY 606) Applied Molecular Spectroscopy.
Credits: 4

CHM 6730 (CY 607) Chemical Transformations.
Credits: 4

CHM 6720 (CY 608) Chemical Dynamics.
Credits: 4

CHM 6622 C (CY 610) Inorganic Preparations.
Credits: 5

CHM 6620 (CY 612) Advanced Inorganic Chemistry.
Credits: 3

CHM 6624 (CY 615) Chemistry of the Nonmetals.
Credits: 3

CHM 6623 (CY 616) Chemistry of the Metals.
Credits: 3

CHM 6680 (CY 617) Special Topics in Inorganic Chemistry.
Credits: 1 to 3. Maximum of 15 credits.

CHM 6690 (CY 618) Inorganic Chemistry Seminar.
Credits: 1

CHM 6520 (CY 629) Chemical Physics.
Credits: 3

CHM 6154 (CY 631) Spectrochemical and Separation Methods.
Credits: 1 to 5

CHM 6153 (CY 632) Electrochemical Processes.
Credits: 1 to 5

CHM 6158 L (CY 633) Advanced Instrumental Analysis Laboratory.
Credits: 4

CHM 6190 (CY 638) Analytical Chemistry Seminar.
Credits: 1

CHM 6180 (CY 639) Special Topics in Analytical Chemistry.
Credits: 2. Maximum of 12 credits.

CHM 6590 (CY 640) Physical Chemistry Seminar.
Credits: 1

CHM 6430 (CY 641) Chemical Thermodynamics.
Credits: 3

CHM 6460 (CY 642) Kinetic Theory.
Credits: 3

CHM 6461 (CY 643) Statistical Thermodynamics.
Credits: 3

CHM 6440 (CY 644) Advanced Chemical Kinetics.
Credits: 3

CHM 6490 (CY 645) Introduction to Molecular Spectroscopy.
Credits: 3

CHM 6481 (CY 647) Quantum Theory of Matter 1.
Credits: 3

CHM 6482 (CY 648) Quantum Theory of Matter 2.
Credits: 3

CHM 6483 (CY 649) Quantum Theory of Matter 3.
Credits: 3

CHM 6580 (CY 650) Special Topics in Physical Chemistry.
Credits: 1 to 3. Maximum of 15 credits.

CHM 6512 (CY 652) The Physical Chemistry of Polymers.
Credits: 3

CHM 6510 (CY 653) Physical Chemistry of Surfaces.
Credits: 3

CHM 6513 (CY 654) Colloids.
Credits: 2

CHM 6480 (CY 655) Elements of Quantum Chemistry.
Credits: 3

CHS 6120 (CY 657) Nuclear Chemistry.
Credits: 3

CHM 6515 (CY 658) Radiation Chemistry.
Credits: 2

CHM 6440 (CY 659) Photochemistry.
Credits: 2

CHM 6225 (CY 661) Advanced Organic Chemistry.
Credits: 3

CHM 6226 (CY 662) Advanced Organic Chemistry.
Credits: 3

CHM 6227 (CY 663) Advanced Organic Chemistry.
Credits: 3

CHM 6271 (CY 668) Chemistry of High Polymers.
Credits: 2

CHM 6271 L (CY 669) High Polymer Chemistry Laboratory.
Credits: 2

CHM 6390 (CY 670) Organic Chemistry Seminar.
Credits: 1

CHM 6260 (CY 671) Physical-Organic Chemistry.
Credits: 2

CHM 6251 (CY 673) Organometallic Compounds.
Credits: 3

CHM 6242 (CY 674) Free Radical Reactions.
Credits: 2

CHM 6270 (CY 675) The Chemistry of Heterocyclic Compounds.
Credits: 2

CHM 6381 (CY 677) Special Topics in Organic Chemistry.
Credits: 2

CHM 6820 (CY 697) Supervised Research.
Credits: 1 to 5††

CHM 6940 (CY 698) Supervised Teaching.
Credits: 1 to 5††

CHM 6971 (CY 699) Master's Research.
Credits: 1 to 15††

CHM 7485 (CY 756) Special Topics in Theory of Atomic and Molecular Structure.
Credits: 3

CHM 7498 (CY 757) Theory of Atomic and Molecular Structure.
Credits: 3

CHM 7980 (CY 799) Doctoral Research.
Credits: 1 to 15††

††Grading is on a 5-U basis only.

CIVIL ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1976-77
Schaub, J.H., Chairman: Christensen, B.A.; Collier, C.A.; Coons, W.W.; Courage, K.G.; Davidson, J.L.; Furman, T.deS.; Gibson, D.W.; Hays, C.O.; Melville, J.G.; Mitrani, J.D.; Parr, A.D.; Rumble, J.D.; Ruth, B.E.; Sawyer, H.A.; Schmertmann, J.H.; Self, M.W.; Spangler, B.D.; Wattleworth, J.A.; Whitehead, W.J.; Zimpfer, W.H.

ADJUNCT AND AFFILIATE STAFF
Brooks, H.K.; Bryan, P.F.; Deere, D.U.; Eades, J.L.; Huber, W.C.; and Wisely, W.H.

ECI 2122 (CE 290) Civil Engineering Concepts. F, W, S.
Credits: 2; Prereq: MS 301.
Introduction to the basic problems, methodology and nomenclature of the subdisciplines of civil engineering.

ECI 3515 (CE 300) Engineering Measurements. F, S.
Credits: 2; Coreq: MS 301.
Theory of Measurements. Sources of errors. Reliability, accuracy, precision, and probability of errors. Application to civil engineering.

ECI 3213 (CE 320) Hydraulics. F, W, S, SS.
Credits: 4; Prereq: ESM 303 and MS 305
Fluid properties and flow forms. Hydrostatic forces and stability of floating bodies. Basic flow equations with applications. Similitude, models and analogs. Pipe flow. Waterhammer. Pumps and turbines. Hydrometry.

ECI 3403 (CE 340) Civil Engineering Materials. F, W, S, SS.
Credits: 4; Prereq: ESM 303.
A study of the principal materials used for engineering purposes with special attention to their mechanical properties and the importance of these properties to the engineer.

CES 3123 (CE 370) Mechanics of Engineering Structures. F, W, S, SS.
Credits: 4; Coreq: ESM 303
Stress and strain analysis of statically determinate structures. Influence lines and criteria for maximum moments, shears, and reactions.

CES 3103 (CE 371) Stress Analysis. W, S, SS.
Credits: 4; Prereq: CE 370.
Deflection analysis of beams, frames and trusses by geometric and static methods. Analysis of statically indeterminate structures by consistent deformations, elastic center, and stiffness method.

ECI 4514 (CE 400) Field Measurements. W, SS.
Credits: 3; Prereq: CE 300.
Familiarization with measuring instruments of civil engineering. Comparative evaluations. Applications to typical field problems.

ECI 4145 (CE 401) Construction Methods and Management. F, S.
Credits: 4; Prereq: Junior or Senior class standing.
Theory and practice of construction operations, equipment utilization and construction methods. Analysis of costs. Optimizing crew and equipment. Heavy equipment costs.

CES 4034 (CE 403) Structural Estimating. W, S.
Credits: 3; Prereq: Junior or Senior class standing.
Cost estimating for structures. Economic comparisons of competitive structural systems. Construction methods and scheduling as they affect cost estimates.

ECI 4137 (CE 404) Civil Engineering Project Cost Analysis. F, S.
Credits: 3; Prereq: Junior or Senior class standing.
Civil engineering project finances. Theory and practice of cost analysis systems for Civil Engineering construction. Highway and heavy construction feasibility studies. Time value applications.

ECI 4131 (CE 405) Construction Contracts and Specifications. W, SS.
Credits: 3; Prereq.: Senior standing or permission of instructor.
Construction contracts, specifications and plans, principles of formulation and interpretation. Construction labor regulations; practice and trends.

TTE 4104 (CE 410) Highway Engineering. F, S.
Credits: 3; Prereq: CE 340 and CE 400.
Highway engineering practice, including organization, highway location, design, drainage, materials and construction.

TTE 4007 (CE 411) Traffic and Transportation Engineering. F.
Credits: 4; Prereq: None.
Transportation characteristics and planning. Traffic characteristics, traffic studies, traffic control. Transportation systems.

ECI 4214 (CE 420) Hydraulics and Water Resources Engineering. F, W, S.
Credits: 4; Prereq: CE 320. Continuation of CE 320.
Open channel flow, hydraulic jump and backwater curves. Introduction to groundwater hydraulics, sedimentation, transient flow and planning and design of water resources systems.

ENV 4621 (CE 423) Water Resources Engineering. SS.
Credits: 3; Prereq: CE 420 or consent of instructor.
Introduction to the hydrologicical cycle. River engineering and design of artificial waterways. Navigation locks and introduction to dam and spillway design. Hydroelectric power generation. Pump and turbine selection.

ENV 4404 (CE 450) Water Supply & Wastewater Removal. F, S.
Credits: 4
Source of supply, quantity and quality requirements, collection, transmission and distribution of water. Collection, transportation and disposal of sewage and stormwater. Design of collection and distribution systems.

ENV 4514 (CE 451) Treatment of Water and Wastewaler. W, SS.
Credits: 4
The chemical, physical and biological treatment of water and wastewater.

ECI 4314 (CE 460) Soil Mechanics. F, S.
Credits: 3; Prereq: GY 220 and CE 340.
Composition, physical and chemical properties of soil, compaction, flow of water through soil, distribution of stress within soil and consolidation.

ECI 4305 (CE 461) Soil Mechanics and Foundations. W, SS.
Credits: 4; Prereq: CE 460.
Subsurface exploration, settlement analysis, shearing resistance, earth pressure and an introduction to foundation design.

ECI 4324 (CE 462) Foundation Design I. F,S.
Credits: 3; Prereq.: CE 461 and CE 472.
Foundation investigations, analysis and design of footings, pile and pile foundations, walls and sheet piling.

CES 4607 (CE 470) Analysis and Design in Steel. F,S.
Credits: 4; Prereq: CE 340, CE 371.
Basic theory of design in structural steel. Design of members subjected to tension, compression and flexure. Design of connections.

CES 4705 (CE 472) Analysis and Design in Reinforced Concrete. F, W, S, SS.
Credits: 4; Prereq: CE 371
Ultimate strength analysis and design of reinforced concrete members. Flexural working stress design. Analysis of frames by moment distribution. Influence lines. Introduction to frame design.

CES 4704 (CE 474) Design of Reinforced Concrete. F.
Credits: 3; Prereq.: CE 472
Continuation of CE 472. Ultimate strength analysis and design involving torsion members of irregular section, and slabs, walls and footings. Building design.

CES 4935 (CE 490) Civil Engineering Seminar. F, S.
Credits: 1; Prereq: Senior standing in civil engineering.
Reports and discussion on civil engineering history, current developments, ethics, professionalism, registration, engineering organizations, publications and activities.

ECI 4152 (CE 491) Creative Engineering. SS.
Credits: 3; Prereq: Senior standing in civil engineering.
The methodology of developing creative solutions to complex problems is explored. New and unusual engineering problems are addressed. Feasibility reports are prepared and presented.

EGN 4822 (CE 492) Engineering and Public Works. W.
Credits: 3
For non-engineering students — A broad review of the nature and engineering aspects of the public services and facilities. Each public works function identified as to purpose and outlined as an engineering project. Problems in project development and interdisciplinary collaboration.

ECI 4041 (CE 493) Computer Methods in Civil Engineering. F, W, S, SS.
Credits: 3; Prereq.: Senior Status and ISE 350.
Introduction to electronic digital computer programming, including various coding systems. Practice in machine solutions of civil engineering problems with introduction to matrix algebra techniques.

ECI 4156 (CE 496) Special Problems in Civil Engineering. F, W, S, SS.
Credits: 1 to 6; Maximum of 12 credits. Prereq: Recommendation of Department Chairman.
Selected problems or projects in the student's major field of engineering study.

ECI 4151 (CE 497) Practical Work in Civil Engineering. F, W, S, SS.
Credits: 1 to 5. Prereq: 4EG Classification.
One term industrial employment, including extra work according to a pre-approved outline. Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

ECI 4949 (CE 499) Co-op Work Experience. F, W, S, SS.
Credits: 0 to 5; Prereq: EG Classification.

GRADUATE COURSES.

ECI 5125 (CE 501) Construction Equipment and Procedures.
Credits: 3

ECI 5147 (CE 502) Construction Planning and Scheduling.
Credits: 3

ECI 5166 (CE 505) Legal Aspects of Civil Engineering.
Credits: 3

TTE 5105 (CE 510) Highway Design.
Credits: 3

TTE 5006 (CE 512) Transportation Engineering.
Credits: 4

TTE 5215 (CE 513) Traffic Engineering Characteristics.
Credits: 4

TTE 5701 (CE 514) Geometric Design of Transportation Facilities.
Credits: 4

TTE 5257 (CE 515) Traffic Control Systems.
Credits: 4

ECI 5225 (CE 520) Problems in Hydraulics.
Credits: 3

ECI 5625 (CE 521) Geohydrology.
Credits: 3

ECI 5235 (CE 522) Open-Channel Hydraulics I.
Credits: 3

ENV 5625 (CE 523) Advanced Water Resources Engineering.
Credits: 3

ECI 5265 (CE 525) Hydraulic Motors and Pumps.
Credits: 3

ECI 5186 (CE 530) Public Works Planning.
Credits: 3

ECI 5317 (CE 560) Stress-Deformation Analysis of Soil Media.
Credits: 3

ECI 5335 (CE 561) Soil Exploration for Engineering Design.
Credits: 3

ECI 5325 (CE 562) Foundation Design II.
Credits: 3

CES 5715 (CE 570) Design in Prestressed Concrete.
Credits: 3

CES 5325 (CE 572) Design of Highway Bridges.
Credits: 3

CES 5305 (CE 573) Design of Structural Systems.
Credits: 3

CES 5726 (CE 574) Design of Concrete Systems.
Credits: 3

CES 5801 (CE 575) Design in Steel and Timber.
Credits: 3

ECI 5045 (CE 590) Numerical and Computer Methods in Civil Engineering.
Credits: 3

ECI 5124 (CE 591) Civil Engineering Systems.
Credits: 4

ECI 6153 (CE 602) Civil Engineering Practice.
Credits: 3

ECI 6154 (CE 603) Civil Engineering Operations.
Credits: 3

TTE 6106 (CE 610) Advanced Highway Engineering.
Credits: 3

TTE 6306 (CE 611) Mass Transport Systems.
Credits: 4

TTE 6606 (CE 612) Urban Transportation Models.
Credits: 3

TTE 6256 (CE 613) Traffic Engineering Operations and Analysis.
Credits: 4

TTE 6516 (CE 614) Highway Planning Decisions.
Credits: 3

TTE 6107 (CE 616) Highway Safety Analysis.
Credits: 3

††Grading is on a S-U basis only.

TTE 6526 (CE 617) Airport Planning and Operations.
Credits: 3

TTE 6307 (CE 618) Freeway Design and Operations.
Credits: 4

TTE 6267 (CE 619) Traffic Flow Theory.
Credits: 4

ECI 6616 (CE 620) Groundwater Hydraulics.
Credits: 3

(CE 621) River Mechanics.
Credits: 3

ECI 6236 (CE 622) Open-Channel Hydraulics 2.
Credits: 3

ECI 6237 (CE 623) Sediment Transport.
Credits: 3

ECI 6227 (CE 624) Hydraulic Models and Analogs.
Credits: 3

ECI 6228 (CE 625) Hydraulic Measurements in Laboratory and Field.
Credits: 3

ECI 6238 (CE 627) Hydraulic Transients.
Credits: 3

ECI 6234 (CE 628) Hydraulics of Stratified Flow.
Credits: 3

(CE 629) Computational Hydraulics I.
Credits: 3

(CE 630) Computational Hydraulics II.
Credits: 3 to 6.

ECI 6426 (CE 640) Bituminous Materials.
Credits: 3 to 6

CES 6616 (CE 641) Advanced Metal Structures.
Credits: 3

ECI 6416 (CE 642) Properties, Design and Control of Concrete.
Credits: 3

ECI 6316 (CE 660) Advanced Soil Mechanics.
Credits: 3 to 9

ECI 6326 (CE 661) Advanced Foundations.
Credits: 3 or 6

ECI 6436 (CE 662) Structure and Engineering Properties of Soils.
Credits: 3 to 6

ECI 6346 (CE 663) Soil Dynamics.
Credits: 3 to 6

ECI 6356 (CE 665) Theory and Practice of Soil Compaction.
Credits: 3

CES 6207 (CE 670) Topics in Structural Dynamics.
Credits: 3 to 6

CES 6706 (CE 671) Advanced Reinforced Concrete.
Credits: 3 to 6

CES 6108 (CE 672) Analysis of Statically Indeterminate Structures.
Credits: 3 or 6

CES 6136 L (CE 673) Advanced Structural Laboratory.
Credits: 3

CES 6106 (CE 674) Advanced Structural Analysis.
Credits: 3 to 6

CES 6516 (CE 676) Design of Framed Structures.
Credits: 3 to 6

CES 6551 (CE 677) Design of Folded Plates and Shells.
Credits: 3 to 6

CES 6526 (CE 679) Nonlinear Structural Analysis and Design.
Credits: 3 to 9

CES 6716 (CE 680) Advanced Prestressed Concrete Design.
Credits: 3

ECI 6575 (CE 681) Air Photo Interpretation: Engineering Applications.
Credits: 3

ECI 6576 (CE 682) Air Photo Interpretation: Terrain Analysis.
Credits: 4

CES 6146 (CE 690) Matrix Methods in Structural Analysis.
Credits: 3 to 6

ECI 6936 (CE 691) Graduate Civil Engineering Seminar.
Credits: 1; max. of 3

ECI 6974 (CE 694) Master of Engineering or Engineer Degree Report.
Credits: 1 to 9

ECI 6906 (CE 696) Supervised Individual Study.
Credits: 1 to 9

ECI 6918 (CE 697) Supervised Research.
Credits: 1 to 5††

ECI 6940 (CE 698) Supervised Teaching.
Credits: 1 to 5††

ECI 6971 (CE 699) Master's Research.
Credits: 1 to 15††

ECI 7980 (CE 799) Doctoral Research.
Credits: 1 to 15††

CLINICAL AND COMMUNITY DIETETICS

College of Health Related Professions

INSTRUCTIONAL STAFF 1976-77

Emerson, A.P., Program Director; Browning, R.S.; Dale, M.S.; Paulk, J.

See also courses under Health Related Professions (HRP).

HUN 3122 (CCD 311) Nutrition and Environmental Factors. F.
Credits: 4
A study of physiological requirements during the life cycle and how environmental factors such as economic status, technological change, age, race, education, religion and cultural and social customs influence the establishment of meal patterns and food habits.

DIE 3124 (CCD 312) Principles of Dietetic Management. W.
Credits: 4
Basic principles of management, computer science, economics and industrial engineering as applied to the management field in dietetics.

DIE 4245 (CCD 406) Nutrition and Disease. W.
Credits: 4; Prereq: FS 405.
Diseases related to nutrient intake; nutritional requirements created by diseases. These will be coordinated with analysis of diets used in medical treatments.

DIE 4126 (CCD 407) Food Systems Management. SS.
Credits: 4; Prereq: FS 301, CCD 312 and FS 350.
Aspects of quantity food service systems; technological developments; management and physical facilities.

DIE 4275 (CCD 411) Practicum in Nutrition and Disease. W.
Credits: 5; Prereq: FS 405; Coreq: CCD 406 and CCD 480.
Application of nutritional care in disease states

in the clinical setting of the teaching hospitals. Patient care plans and case studies in medicine, surgery, pediatrics, clinical research and psychiatry.

DIE 4175 (CCD 412) Practicum in Food Systems Management. SS.
Credits: 5: Prereq; CCD 312; Coreq: CCD 407
Application of food systems management principles in patient service, personnel service, menu and recipe development, production, supportive services in the clinical setting of the teaching hospitals.

DIE 4355 (CCD 414) Practicum in Nutrition Throughout the Life Span. F.
Credits: 5; Prereq: CCD 407, CCD 412; Coreq: FS 405.
Supervised practicum in local community dietetic programs.

DIE 4316 (CCD 420) Community Dietetics. S.
Credits: 5; Prereq: FS 405, CCD 406, CCD 411 and CCD 414; Coreq: CCD 421.
Principles of nutritional care in outpatient clinics, outlying medical clinics, private clinics, child care centers and other special programs.

DIE 4377 (CCD 421) Practicum in Community Dietetics. S.
Credits: 5; Prereq: FS 405, CCD 406, CCD 411 and CCD 414; Coreq: CCD 420
The clinical experiences in nutritional care in outpatient clinics, outlying medical clinics, private clinics, child care centers and other special programs.

DIE 4251 (CCD 422) Clinical Dietetics. S.
Credits: 5; Prereq: FS 405, CCD 406, CCD 411 and CCD 414; Coreq: CCD 423.
Advanced course dealing with disorders of carbohydrate, amino acid, lipid, purine, pyrimidine, or metal metabolism; diseases of connective tissue, blood epithelial transport, or a deficiency of enzymes.

DIE 4276 (CCD 423) Practicum in Clinical Dietetics. S.
Credits: 5; Prereq: FS 405, CCD 406, CCD 411 and CCD 414; Coreq: CCD 422
Clinical experience as a specialist member of the medical team. May elect clinical research, medicine, pediatrics, obstetrics-gynecology, geriatrics, psychiatry, renal medicine, endocrinology, cardiology, infectious diseases or related area.

DIE 4516 (CCD 480) Clinical and Community Dietetics Seminar. W.
Credits: 4; Prereq: FS 405, CCD 414; Coreq: CCD 406 and CCD 411; Permission of Program Director.
Selected readings and discussions of current developments in the field of clinical or community dietetics. Individual investigations and reports on assigned topics.

CLINICAL PSYCHOLOGY

College of Health Related Professions

INSTRUCTIONAL STAFF 1976-77

Perry, N.W., Jr., Acting Chairman; Barger, B.; Belar, C.D.; Cohen, E.; Cohen, L.D.; Cunningham, W.R.; Davis, H.C., Jr.; Goldman, J.R.; Goldstein, M.; Harrower, M.; Hielman, K.M.; Hornberger, R.H.; Levy, C.M.; McCaulley, M.H.; McMahon, E.A.; Mealiea, W.; Meyer, M.E.; Phillis, J.A.; Rasbury, W.C.; Rice, W.J.; Ross, J.; Satz, P.; Schumacher, A.S.; Starr, D.L.; Taffel, S.B.; Van De Riet, V.D.; Wells, A.

GRADUATE COURSES

CLP 6447 (CLP 611) Intellectual Assessment.
Credits: 4

CLP 6446 (CLP 612) Personality Assessment.
Credits: 4

CLP 6448 (CLP 613) Behavioral Assessment.
Credits: 4

(CLP 621) Psychological Disturbances of Adults.
Credits: 4

(CLP 622) Psychological Disturbances of Children.
Credits: 4

(CLP 640) Introduction to Clinical Psychology.
Credits: 4

PCO 6216 (CLP 641) Psychological Treatment I.
Credits: 4

CLP 6409 (CLP 642) Psychological Treatment II.
Credits: 4

CYP 6709 (CLP 643) Theory & Research in Community Clinical Psychology.
Credits: 4

CLP 6943 (CLP 651) Practicum in Clinical Psychology.
Credits: 4, max. 16.

CLP 6943 (CLP 652) Selected Practicum in Clinical Psychology.
Credits: 4

CLP 6376 (CLP 691) Introduction to Clinical Research and Design
Credits: 4

CLP 6449 (CLP 692) Life History Research in Psychopathology.
Credits: 4

CLP 6908 (CLP 696) Individual Work.
Credits: 1 to 5.

CLP 6916 (CLP 697) Supervised Research.
Credits: 1 to 5††

CLP 6935 (CLP 698) Supervised Teaching.
Credits: 1 to 5††

(CLP 699) Masters Research.
Credits: 1 to 15††

(CLP 714) Neuropsychological Assessment.
Credits: 4

CLP 7438 (CLP 715) Selected Methods in Clinical Assessment.
Credits: 4, max. 8.

(CLP 722) Minimal Brain Dysfunction & Learning Disabilities.
Credits: 4

(CLP 723) Medical Psychology.
Credits: 4

(CLP 724) Forensic Psychology.
Credits: 4

CLP 7407 (CLP 744) Special Issues, Methods & Techniques in Psychological Treatment.
Credits: 4, max. 8.

CLP 7379 (CLP 745) Seminar in Psychodynamic Theory & Therapy.
Credits: 4, max 8

CLP 7408 (CLP 746) Seminar in Gestalt Therapy and Techniques.
Credits: 4, max. 8.

(CLP 753) Practicum in Behavior Therapy.
Credits: 4

CLP 7488 (CLP 754) Clinical Treatment of Adolescents.
Credits: 4

CLP 7308 (CLP 755) Theory & Practice of Psychological Consultation.
Credits: 4

CLP 7348 (CLP 757) Psychological Treatment Through Community Intervention.
Credits: 4

CYP 7769 (CLP 758) Marital Dysfunction.
Credits: 4

CLP 7468 (CLP 759) Psychological Treatment with Groups.
Credits: 4

CLP 7948 (CLP 769) Internship.
Credits: 5

(CLP 799) Doctoral Research.
Credits: 1 to 15††

COMMUNICATION

College of Journalism and Communications

INSTRUCTIONAL STAFF, 1976-77

Lowenstein, R.L., Dean; Butler, G.A.; Christiansen, K.A.; Davis, H.G.; Detweiler, J.S.; Edwardson, M.N.; Fregley, M.S.; Griffith, J.L.; Griggs, H.H.; Hooper, L.J.; Jacobs, A.J.; Jones, J.P.; Kendall, R.L.; Kent, K.E.M.; Pierce, F.N.; Pierce, R.N.; Pisani, J.R.; Rush, R.R.; Terhune, J.L.; Weston, E.G.; Whitaker, R.D.

MMC 6421 (COM 601) Research Methods in Mass Communication.
Credits: 4

ADV 6504 (COM 602) Advertising Research Problems.
Credits: 4

RTV 6801 (COM 603) Broadcast Station Management.
Credits: 4

JOU 6501 (COM 604) Newspaper Production and Management.
Credits: 4

MMC 6660 (COM 605) Seminar in Mass Communication and Society.
Credits: 4

MMC 6400 (COM 606) Mass Communication Theory.
Credits: 4

MMC 6202 (COM 609) Seminar in Legal Problems of Mass Communication.
Credits: 4

MMC 6560 (COM 611) Seminar in History of Mass Communication.
Credits: 4

PUR 6934 (COM 614) Problems in Public Relations.
Credits: 4

JOU 6190 (COM 615) Seminar in Problems of News Gathering and Presentation.
Credits: 4

JOU 6891 (COM 616) Seminar in Journalism Teaching.
Credits: 4

MMC 6303 (COM 619) International Communication I.
Credits: 4

COM 6315 (COM 621) Advanced Research Methods.
Credits: 4

††Grading is on a S-U basis only.

RTV 6503 (COM 623) Broadcast Program and Production Problems.
Credits: 4

FIL 6101 (COM 625) Advanced Radio, Television and Film Writing.
Credits: 4

RTV 6601 (COM 628) Radio and Television in Education.
Credits: 4

MMC 6304 (COM 629) International Communication II.
Credits: 4

ADV 6503 (COM 632) Creative Advertising Strategy and Consumer Behavior.
Credits: 4

MMC 6920 (COM 660) Communication Colloquium.
Credits: 1††

MMC 6939 (COM 690) Special Topics in Mass Communication
Credits: 2 to 5

MMC 6905 (COM 696) Individual Work
Credits: 1 to 5

MMC 6910 (COM 697) Supervised Research.
Credits: 1 to 5††

COM 6940 (COM 698) Supervised Teaching.
Credits: 1 to 5††

MMC 6971 (COM 699) Master's Research.
Credits: 1 to 15††

COMPUTER AND INFORMATION SCIENCES

Intercollege Department

INSTRUCTIONAL STAFF 1976-77

Ramey, R.A., Acting Chairman; Davis, E.W.; Grant, J.H.; Reynolds, M.J; Richard, T.J.; Selfridge, R.G.; Smith, M.J; Vickers, F.D.

General Information

The Intercollege Department of Computer and Information Sciences was created to serve the needs of the entire university. Toward this end several service courses (those with zero as the second digit) are available as well as several degree programs. Bachelor Degree programs are currently available through the College of Arts and Sciences, the College of Business Administration, and the College of Engineering.

Programs for CIS Majors in the College of Arts and Sciences

The minimum CIS requirements for a Bachelor's degree with a major in CIS from the College of Arts and Sciences are listed in the following paragraphs. In addition, the student must satisfy the general college requirements as described under the College of Arts and Sciences section of this catalog.

a. The student should complete in the lower division MS 301, 302, 303, and 328, STA 410, CIS 311, 312, 321 and 322.

b. Three optional areas for upper division study are designed to allow for differing application areas. A revision and expansion to other areas is under study.

Area 1: Large data bases.
Required courses: CIS 380, 411, 453, 461-2, 470. In addition two computer oriented courses are to be chosen in a secondary field; either within CIS or the department concerned.

Area 2; Small data bases.
Required courses; CIS 323, 420, 453, 461-2, MS 304, 305, 406-7-8, STA 409. The student is urged to emphasize one secondary field in structuring the remaining courses with the supervision of his advisor.

Area 3: Graduate program preparation.
Required courses: CIS 380, 453, 461-2, 471. In addition, two courses from among CIS 411, 412, 431, 433, 439, 455, 468, 470, 480.

c. In addition to area requirements all students are required to take at least four hours of CIS 496 during their Senior year. Students in areas 1 and 2 must emphasize their secondary field in CIS 496. All students will, as part of the registration process for CIS 496, discuss and obtain approval prior to registration in CIS 496 of all programming projects with the faculty member assigned to CIS 496 the coming quarter. This faculty member will be responsible for the final grade.

d. Each student must take the 1 credit CIS 490 during their upper division study.

e. Each student in the College of Arts and Science must take ASC 404.

CIS Departmental Honors.

To qualify for honors in CIS a student must attain a 3.5 average in all CIS work attempted with no grade less than a "B" and complete in addition to the normal requirements the following with at least a "B" grade: one theoretical 400-level CIS course approved by the department, and 4 additional credits from any CIS course numbered above 400. In addition, a research problem must be carried out as a CIS 496 project, which must be approved by the department. The research is to be carried out under the direction of a member of the CIS faculty. The results of the research are to be presented to the department as a document and to the public in a seminar.

Honors will not be given to any student that dropped any CIS course, during his upper division career, after the normal drop period, without a legitimate reason (to be determined by the CIS faculty).

If a student intends to graduate with departmental honors, he must petition and get departmental approval to do so no later than two quarters before he intends to graduate.

Programs for CIS Majors in the College of Business Administration.

The student is referred to the College of Business Administration section of the catalog for the degree requirements in CIS under the College of Business Administration.

Programs for CIS Majors in the College of Engineering.

The student is referred to the College of Engineering section of the catalog for the degree requirements in CIS under the College of Engineering.

COC 3400 (CIS 300) Computers and Modern Society. F, W, S, SS.
Credits: 4
Impact of computers on society. Discussion includes specific cases from many areas, but does not include problem solution by the student. This course does not teach how to use the computer but gives an understanding of the implications of computers.

CAP 3800 (CIS 301) Statistical Data Processing. F.
Credits: 4; Recommended Prereq: One course in elementary statistics.
Techniques for coding and analysis of research data using SPSS (Statistical Package for the Social Sciences); introduction to U.S. Census computerized database and associated retrieval software. Computer solution of assigned problems by the student.

COP 3110 (CIS 302) Introduction to Computer Programming. F, W, S, SS.
Credits: 2; Prereq: High School Algebra.
An introduction to computer programming using FORTRAN. Relatively slow paced. Language development is not extensive. Problems will be solved using Computing Center facilities. Degree of programming skill is not tested.

COP 3212 (CIS 303) Computer Programming Using FORTRAN. F, W, S, SS.
Credits: 2; Prereq: CIS 302 or MS 102 or equivalent.
An in depth treatment of computer programming using FORTRAN. Higher level of math and logic background required than for CIS 302. Relatively fast paced. Problems relating to the students' major area will be solved using Computing Center facilities. Degree of programming skill is subjectively tested.

COP 3111 (CIS 305) Advanced FORTRAN Programming. F, W, S, SS.
Credits: 2; Prereq: CIS 303 or CIS 350 or ISE 350 or permission of instructor.
Advanced topics in FORTRAN including logical, double precision and complex arithmetic and tape and disk (direct access) input and output. Creating and using a private library. Linkages to other languages.

COP 3120 (CIS 306) Introduction to COBOL Programming. F, S.
Credits: 4
A course in COBOL programming for non-CIS majors. Structured programming in COBOL is stressed. Topics include information transfers, arithmetic and logical operations, the structuring of data, and arrays.

COP 3202 (CIS 307) Problem Oriented Languages.
Credits: 4; Prereq: CIS 302 or equivalent or consent of instructor.
Study of one or more problem oriented languages with sufficient programming to illustrate problem oriented language concepts.

(CIS 311) Introduction to CIS. F, W, S, SS.
Credits: 4; Coreq: MS 301.
Introduction to computers and algorithms. Programming in a high level language. Topics include loops, arrays, and procedures. Structured programming techniques.

CDA 3101 (CIS 312) Introduction to Computer Organization. F, W, S, SS.
Credits: 4; Coreq: CIS 311.
Computer representation of instructions and data. Logic circuits, computer hardware and memory control. Program segmentation and linkages.

COP 3530 (CIS 321) Data Structures. F, W, S, SS.
Credits: 4; Prereq: CIS 311 and CIS 312.
Storage of arrays. Stacks, queues, and deques. Linked linear lists. Trees and multilinked structures. Sorting and searching.

COP 3550 (CIS 322) Structure of Programming Languages. F, S, SS.
Credits: 4; Prereq: CIS 321.
Formal definitions of languages, including syntax and semantics. A comparative study of the structures and features of the major programming languages. Effective programming design techniques.

CNM 3125 (CIS 323) Algorithms of Numerical Calculus. F.
Credits: 4; Prereq: CIS 321 and MS 328.
A study of many different algorithms designed to consider properties of global versus local convergence, with elementary error analysis, their implementation in different languages with emphasis on computer solution of problems.

††Grading is on a S-U basis only.

COP 3545 (CIS 331) Applications of Discrete Structures. F.
Credits: 4; Prereq: CIS 312.
Applications of symbolic logic to CIS. Sets, relations, functions, and data structures. Induction and recursion. Algebraic structures, grammars, and languages. Application and representation of graphs.

(CIS 350) Computer Programming for Engineers. F, W, S, SS.
Credits: 3; (Ident. with ISE 350); Prereq: MS 302.
Computer programming and the uses for large scale digital computers. Emphasis will be placed on the scientific oriented computer language FORTRAN. Engineering and technical problems are solved by each student using the facilities of the Computer Center. This course is specifically directed toward those students who are pursuing technical careers in fields employing a reasonably high degree of mathematics.

ESI 3502 (CIS 351) Numerical Techniques. F, W, S, SS.
Credits: 2; (Ident. with ISE 351); Prereq: CIS 350; Coreq: MS 305.
Major techniques for solving problems quantitatively through the use of computers and computer programming languages. Numerical and computer solutions to elementary systems of algebraic equations and ordinary differential equations.

COT 3330 (CIS 361) Computational Techniques F, S.
Credits: 4; (Ident. with EE 361); Prereq: MS 305 and CIS 311 or CIS 302 or ISE 350.
Applications of analog, digital and hybrid computers to computation and simulation.

COP 3392 (CIS 380) PL/I Programming.
Credits: 4; Prereq: CIS 321.
An advanced high level language programming course. Topics include record I/O, storage control, exceptional condition handling, compile-time facilities, and multitasking.

(CIS 385) Information Systems Programming 1. F.
Credits: 4; Prereq: CIS 321.
Techniques for business information systems programming in COBOL utilizing comprehensive facilities of the COBOL language. Business applications and examples of their solutions will be employed throughout. Topics include advanced table handling as well as sequential, random, and indexed file organizations and manipulation techniques in COBOL.

(CIS 386) Information Systems Programming 2. W.
Credits: 4; Prereq: CIS 385.
Advanced information systems programming utilizing the extended facilities of the COBOL language. Topics include information and string manipulation, sort/merge techniques, automated report generation, and multi-access terminal communication with the COBOL program in a teleprocessing environment.

COP 4400 (CIS 401) Basic Assembly Language 1. F.
Credits: 4; Prereq: CIS 302 or equivalent.
Study of basic assembly language for large scale computers. Covers the entire operation set including input and output. Macro programming and conditional assembly is also included.

COP 4402 (CIS 402) Basic Assembly Language 2. W.
Credits: 4; Prereq: CIS 401
Continuation of CIS 401.

COP 4150 (CIS 403) Introduction to APL. W, SS.
Credits: 4
APL is a highly interactive computer language, though no formal computing or mathematics prerequisite is required, considerable maturity is necessary. Some linear algebra is very desirable.

COP 4151 (CIS 404) Advanced APL. S.
Credits: 4; Prereq.: CIS 403.
Files and OS communications with APL. Large problems and projects, shared files. Large data bases and list editors.

COP 4215 (CIS 405) Applied FORTRAN Programming Techniques. F, W, SS.
Credits: 4
An intensive survey study of digital computer programming using the FORTRAN language. Practical problems in various disciplines will be solved by the students.

COP 4121 (CIS 406) Data Processing Languages. S.
Credits: 4; Prereq: CIS 321.
Design and implementation of data processing programs. File structures: searching, sorting and file maintenance. Report design and generation. A comparison of current data processing languages such as COBOL and RPG.

COP 4610 (CIS 411) Systems Programming 1. F, S.
Credits: 4; Prereq: CIS 322.
The design and implementation of loaders and assemblers. Introduction to the basic principles of operating systems.

(CIS 412) Systems Programming 2. W.
Credits: 4; Prereq: CIS 411.
Continuation of CIS 411. A comparative study of various operating systems.

CNM 4135 (CIS 420) Error Analysis of Algorithms. W.
Credits: 4; Prereq: CIS 323.
An introduction to error analysis of selected algorithms. Matrix techniques of error analysis and global versus local convergence.

CIS 4023 (CIS 431) Non-Numeric Information Processing. S.
Credits: 4; Prereq: CIS 322.
Design and programming of non-numeric computer processing systems with emphasis on information retrieval, automatic translation, computer aided instruction and information construction.

CIS 4025 (CIS 433) Information Retrieval. S.
Credits: 4; Prereq: CIS 321.
The structure and operation of information retrieval systems, including file organization, question analysis, search strategy, indexing languages, thesaurus constructions.

CRM 4121 (CIS 435) Information Centers. S.
Credits: 4; Prereq: Junior or Senior standing.
Information centers, indexing and abstracting services, and document distribution agencies, showing their purposes, functions, and organizational characteristics. Management and operation of information centers.

CAP 4621 (CIS 439) Artificial Intelligence and Heuristics. S.
Credits: 4; Prereq: CIS 322.
Objectives of artificial intelligence. Self organizing systems. Learning systems. Game playing systems.

(CIS 440) Introduction to Management Systems. W.
Credits: 4; Prereq: CIS 406.
An intensive development of systems analysis and design techniques in the applications of computerized systems. The student will be introduced to an actual problem of computerizing a university application. Analysis and validation will be carried out with real data.

ESI 4523 (CIS 453) Discrete Systems Simulation. W, SS.
Credits: 3; Prereq: STA 410.
Simulation methodology, languages and design. Monte Carlo technique, GPSS (General Purpose Simulation System), applied to the solution of discrete system problems.

COT 4325 (CIS 455) Computability and Unsolvability. W.
Credits: 4; (Ident. with MS 455); Prereq: Junior or Senior standing.
Computability, algorithms, Turing machines, recursive functions, decidability, and unsolvability. A course primarily for students of mathematics, philosophy, and computer and information sciences.

CDA 4040 (CIS 461) Digital Computer Principles 1. F, W, S, SS.
Credits: 4; (Ident. with EE 461).
Introduction to logic design with electronic digital integrated circuits. Applied switching algebra. Sequential circuits.

EEL 4713 (CIS 462) Digital Computer Principles 2. F, S, SS.
Credits: 4; (Ident. with EE 462); Prereq: CIS 461. Concurrent enrollment in CIS 463 is suggested.
The use of electronic digital modules to design computers. Organization and operation of computers. Hardware/software tradeoffs.

CDA 4110 (CIS 463) Digital Computer Principles 3. F, S.
Credits: 4; (Ident. with EE 463); Prereq: CIS 461. Concurrent enrollment in CIS 462 is suggested.
Software/hardware tradeoffs in computer design, Minicomputer operation and programming. Software design for minicomputer systems and interfacing.

CAP 4721 (CIS 468) Computer Graphics. S.
Credits: 4; Prereq: CIS 322.
Displays, storage and generation. Interactive versus passive graphics. Analog versus digital graphic storage. Pattern recognition. Projections and the hidden line problem.

(CIS 470) File Structures. W, SS.
Credits: 4; Prereq: CIS 321.
Sequential, indexed, direct, and virtual files. Multiple-key file access facilities. Comparative data storage techniques using random access devices. Review of file management systems.

COP 4640 (CIS 471) Compilers 1. W.
Credits: 4; Prereq: CIS 322.
Translation of languages and scanning. Parsing techniques. The implementation of a compiler.

COP 4641 (CIS 472) Compilers 2. S.
Credits: 4; Prereq: CIS 471.
Continuation of CIS 471. Object code optimizing.

COT 4231 (CIS 480) Formal Languages and Syntactic Analysis. S.
Credits: 4; Prereq: CIS 322.
Definition of formal grammars. Connections with automata theory. Applications to systems programming.

(CIS 482) Information Resources in Science and Technology.
Credits: 3; Prereq: 36 hours in physical sciences, biological sciences, engineering, mathematics or CIS major.
Nature and scope of primary, secondary and informal sources. Problems in application of information search techniques. Directed experience in utilization of information resources.

CIS 4103 (CIS 484) Information Resources in Business and Economics. S.
Credits: 3; Prereq: Senior major in business, economics, or CIS.
Same description as for CIS 482.

(CIS 486) Content Analysis, Specification, and Control.
Credits: 4; Prereq: CIS 324 and one of CIS 482 or 484.
Design, operation, and evaluation of indexing and abstracting systems. Problems in creating and using manual, mechanized and computerized systems. Required of IS majors.

CIS 4935 (CIS 490) Seminar in CIS. F, W, S, SS.
Credits: 1 to 4; Prereq: Junior or Senior Standing in CIS. May be repeated.
A seminar in different Computer and Information Science topics.

CIS 4906 (CIS 496) Special Problems in CIS. F, W, S, SS.
Credits: 1 to 6.
Problems in different areas of computer science, operating systems, management systems, and information retrieval. This course differs from CIS 490 in that it is in close collaboration with the Computing Center and requires actual experience and maintainence of a system in use. May be repeated for a maximum of 12 hours.

CIS 4949 (CIS 499) Co-Op Work Experience. F, W, S, SS.
Credits: 1 to 5; Prereq: 4EG Classification.
One term industrial employment, including extra work according to a pre-approved outline. Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

COOPERATIVE EDUCATION PROGRAM

Academic Affairs

INSTRUCTIONAL STAFF 1976-77
C.M. Santoli, Coordinator.

General Information

The Cooperative Education Program offers students an opportunity to integrate their classroom instruction with practical work experience as a part of their academic program.

Educational work assignments are selected for students in career related fields with business, industry, government and other professional employers located in Florida and elsewhere. The Program gives students an opportunity to verify academic interests and career goals in the world of work.

Qualifications

To qualify for a Co-op work assignment a student must have completed his/her freshman year with at least a 2.0 GPA. After arrangements have been made for the student to be employed in a career-related job, enrollment in an appropriate 'Co-op" Work Experience Course follows. This enables the student to earn college credit for the growth and development that occurs while on the job. (Exact use of credits earned should be reviewed with a departmental advisor prior to enrollment in a work experience course.)

Transfer Students

Students who were Co-oping at a Community College and who wish to continue to do so while at the university will ordinarily wait until after completing one quarter at the UF. Articulation agreements add further flexibility with Community College transfer students, and a "personalized" arrangement can often be made based on individual requirements.

Formats Co-op students may participate in the following work programs:
ALTERNATING: The student alternates between a full-time academic schedule followed by full-time work for a quarter, etc. (Variations are permitted for flexibility.)
PARALLEL: The student, while carrying academic course work, is also employed in an appropriate job.
INTERNSHIP: Includes arrangements based on a single quarter of work experience. Can be scheduled any quarter, including the Summer quarter.

Course Offerings

Many academic departments offer specific Co-op courses for their students. In cases where this is not so, students may enroll in the following course.

4949 (CEP 499) Co-op Work Experience.
Credits: 3 to 5; May be repeated with change in contents S-U basis only.
An educational work experience designed to assist the student in exploring career choices in business, industry, government and the professions, and to develop marketable skills. The statewide course prefix will reflect the subject matter.

CRIMINAL JUSTICE

College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77
Sanders, W.B.; Keller, O.J. Collateral faculty represented by Berkson, L.C. (Political Science), Frazier, C.E. (Sociology), Swanson, R.M. (Psychology).

The college of Arts and Sciences offers an interdisciplinary undergraduate major in Criminal Justice. The program is organized around a core of specialized courses in Criminal Justice as well as selected courses in Political Science, Sociology, and Psychology. The major in Criminal Justice is designed as preparation for leadership roles in such fields as law enforcement, court administration, corrections, probation, and parole, as well as preparation for graduate work in the social and behavioral sciences, and criminal justice.

The requirements for the major in Criminal Justice are:

1. 20 credits from CRJ courses including CRJ 301
2. Two psychology courses from the following including at least one marked *: PSY 313*, 345*, 412, 414, 415, 449
3. Two sociology courses from the following including at least one marked *: SY 486*, 487*, 321, 391, 429, 494
4. Two political science courses from the following including at least one marked *: PCL 335*, 417*, 418*, 411, 416
5. STA 310 or 320

Criminal Justice majors may take, for credit toward their major, CRJ 480 only once and for not more than 4 credit hours. (This course covers field experience as well as internships.) Criminal Justice majors may take ASC 499 for 4 elective credits, but not more than once for additional field experience.

CRJ 496, may only be taken once, for no more than 4 credit hours. This is a supervised, independent research course and the student taking it must have taken CRJ 420 (or a similar research methods course in PCL, SY, PSY, or APY), as a prerequisite. ASC 496, PCL 496, PSY 496 or SY 496 may be taken for 4 elective credits for supervised independent research.

All students must have faculty approval to take any of these courses.

In addition, the student and his/her adviser will develop 20 additional elective hours from a list of more general courses offered in the departments of PCL, PSY, SY, STA, APY, and MGT.

Since the Criminal Justice program is relatively new, it is expected that additional courses, internship opportunities, and honors will be developed during the life of this catalog. Therefore, students should consult periodically with their advisers and/or the departmental office to keep abreast of program additions and changes. Criminal Justice majors and potential majors should contact the Criminal Justice Office.

CCJ 3020 (CRJ 301) Introduction to Criminal Justice. F, W, S, SS.
Credits: 4.
Introductory course designed to provide an overview of the criminal justice system and its processes. Consideration of the interrelationships among criminal law, law enforcement, courts, diversion programs, corrections, probation and parole.

CCJ 4100 (CRJ 401) Law Enforcement and Social Control. F, S.
Credits: 4; Prereq: CRJ 301.
Study of the role of the police in the criminal justice system of a democratic society. Focus on the organization of police work, discretion and police role in a socio-legal context.

CCJ 4300 (CRJ 402) Process of Correction, Probation & Parole. W, S.
Credits: 4; Prereq: CRJ 301.
An examination and discussion of the American Correctional Process as a continuum with emphasis on development and system change.

CCJ 4290 (CRJ 403) Prosecution and Adjudication. W, S.
Credits: 4; Prereq: CRJ 301.
An examination of the interactions among the legal, social and psychological influences on the behavior of criminal courts, prosecutors, defense attorneys and the accused.

(CRJ 420) Criminal Justice Research. W, S.
Credits: 4; Prereq: CRJ 301.
Application of social science methods to Criminal and Criminal Justice Research. Research design for evaluation of Criminal Justice Programs and test of theories of Criminal Etiology.

(CRJ 480) Practicum. F, W, S, SS.
Credits: 4; Prereq: Senior major in criminal justice, minimum 25 credits of required course work toward CRJ major and consent of the Director.
Supervised experience in a criminal justice agency. A post-practicum written report is required.

CCJ 4934 (CRJ 495) Contemporary Issues in Criminal Justice. F, W, S, SS.
Credits: 4; Prereq: CRJ 301.
A changing-topic seminar which will examine a variety of current issues, techniques and problems in criminal justice. May be repeated with change in topic.

(CRJ 496) Individual Work. F, W, S, SS.
Credits: 4; Prereq: CRJ major, 12 credits in criminal justice and consent of the instructor.
Qualified students and the instructor concerned will develop a course of study or investigation designed to extend available course work. A formal written report is required.

DAIRY SCIENCE

College of Agriculture

INSTRUCTIONAL STAFF 1976-77
Van Horn, H.H., Chairman: Bachman, K.C.; Browning, C.B.; Collier, R.J.; Head, H.H.; Marshall, S.P.; Mull, L.E.; Richter, R.L.; Smith, K.L.; Thatcher, W.W.; Webb, D.W.; Wilcox, C.J.; Wing, J.M. This staff cooperates in teaching courses in Animal Sciences — General and Food Science.

DAS 3211 (DY 301) Dairy Cattle Management. F, SS.
Credits: 4; Prereq.: Consent of instructor.
Management principles necessary for successful dairying with emphasis on large dairy herds.

DAS 3214 (DY 302) Dairy Cattle Evaluation. S.
Credits: 2.
Evaluation of dairy cows and sires on the basis of performance traits and visual appraisal. Use of performance records and pedigrees in evaluation of cows and sires, the standards of body conformation for the various dairy breeds, and beginning dairy cattle judging will be stressed.

DAS 4941 (DY 400) Fulltime Practical Work Experience in Dairy Science. F, W, S, SS.
Credits: 1 to 4; S-U Grade only; Prereq: Prior arrangement with adviser, approval of Department Chairman and Dean.
Practical work must be a new experience and related to the field of study.

DAS 4213 (DY 401) Dairy Management Techniques. W.
Credits: 1 to 4; Prereq.: DY 301 and permission of instructor. May be repeated with change in contents up to a maximum of 4 credits.
Planning, direction and management techniques employed in large dairy herds.

DAS 4411 (DY 405) Dairy Cattle Nutrition. S.
Credits: 3; Prereq: ADP 314-5.
Principles of nutrition and their application to dairy cattle feeding.

DAS 4510 (DY 407) Physiology of Lactation. S.
Credits: 4; Prereq: BTY 370.
Anatomy and development of the mammary gland and factors affecting milk yield and composition.

DAS 4614 (DY 455) Dairy Technology. F.
Credits: 5; (Ident. with FS 455)
Nature and properties of milk constituents; effects of processing upon milk constituents; defects in dairy foods and their causes; dairy foods processing; and analytical procedures for processing and quality control. (For other Dairy Production related courses, see Animal Science — General and for other Dairy Foods related courses see Food Sciences.)

GRADUATE COURSES

DAS 6281 (DY 601) Dairy Science Research Techniques.
Credits: 4

DAS 6931 (DY 602) Graduate Seminar in Dairy Science.
Credits: 1

DAS 6531 (DY 604) Endocrinology.
Credits: 5

DAS 6212 C (DY 605) Advanced Dairy Cattle Management.
Credits: 4

DAS 6541 (DY 606) Energy Metabolism.
Credits: 4

DAS 6512 C (DY 607) Advanced Physiology of Lactation.
Credits: 3

DAS 6617 (DY 610) Advanced Dairy Technology.
Credits: 2 to 5

DAS 6651 (DY 613) Industrial Food Fermentations.
Credits: 4; (Ident. with FS 613)

DAS 6392 (DY 664) Topics in Genetics.
Credits: 2 to 4

DAS 6906 (DY 696) Problems in Dairy Science.
Credits: 1 to 5

DAS 6911 (DY 697) Supervised Research.
Credits: 1 to 5††

DAS 6942 (DY 698) Supervised Teaching.
Credits: 1 to 5††

DAS 6991 (DY 699) Master's Research.
Credits: 1 to 15††

ECONOMICS

College of Business Administration

INSTRUCTIONAL STAFF 1976-77

Arditti, F.D.; Berg, S.V.; Black, H.A.; Blair, R.D.; Connolly, M.B.; Davis, J.R.; Denslow, D.A.; Donovan, C.H.; Fishkind, H.H; Frazer, W.J.; Friedman, P.; Fristoe, C.W.; Goddard, F.O.; Goffman, I.J; Horowitz, A.R.; Kafoglis, M.Z.; Keig, N.G.; Kenny, L.W.; Koefod, P.E.; Kreicher, L.L., Langham, M.R.; Lanzillotti, R.F.; Lockhart, M; Maddala, G.S.; Milliman, J.W.; Osterbind, C.; Pomer, M.I; Roberts, R.B.; Saunders, S.G.; Smith, S.; Taylor, D.G.; Toda, Y.; Tyler, W.G.; Vernon, J.R.; Woodruff, W.

An undergraduate major in Economics is available through both the College of Arts and Sciences and the College of Business Administration. Potential Economics majors should see an Economics advisor prior to entering upper division. Among the areas of concentration within the major are: Asian Studies, Business Economics, General Economics, International Economics, Latin American Economics, Pre Law, Pre Med, Public Service, Qualitative Methods in Economics and Business (including Computer Sciences), Urban Economics, and Secondary School Teaching (Certification in the Social Sciences).

Students majoring in Economics through the College of Arts and Sciences must complete at least 36 total hours of Economics work and a course in Statistics (STA 320). Majors are required to include in their Economics work ES 402 and ES 401 (normal prerequsites: ES 201-202), and at least three courses from the following:*

ES 321	ES 410, 411, or 414**
ES 341	ES 431
ES 361	ES 455
ES 400	

*Graduate level (500-730) courses in Economics may be substituted for courses on this list with permission of advisor, except that ES 501 and ES 502 may not be taken by economics majors.

**Students taking one or more of ES 410, 411, or 414 must still take two additional courses (other than ES 410, 411, or 414) from the list.

Students in Arts and Sciences must attain a grade of "C" or better in ALL required work including the three courses selected from the list above.

Departmental Honors in Economics are awarded to Arts and Sciences students who have a 3.3 average in all Economics work and have completed a 5 hour honors program. The honors program will involve a research project and paper and enrollment in either a combination of ES 400 (3 hrs.) and ES 496 (2 hrs.) or in ES 496 for 5 hrs. Students progress will be evaluated by three faculty members.

Students majoring in Economics through the College of Business Administration must substitute ES 401 and ES 402 for ES 301-302 in the College core program. They must also complete 18-28 credit hours of Economics electives including at least three courses (other than ES 361) from the list above.

See the appropriate sections for the College of Arts and Sciences and the College of Business Administration for further details.

ECO 2000 (ES 200) Economic Concepts and Institutions. W.
Credits: 4
Designed for students wishing a survey course in Economic Problems, and for junior college and public school teachers of social sciences. Basic economic concepts and the institutions of private enterprise systems. Theory, measurement and problems of national income and economic growth. Comparisons of main features of private enterprise and controlled economies.

ECO 2013 (ES 201) Basic Economics 1. F, W, S, SS.
Credits: 5
The nature of economics, economic concepts and institutions; emphasis on the accounting, analytical, and policy aspects of national income and product, as well as public finance, money and banking, and international trade.

ECO 2023 (ES 202) Basic Economics 2. F, W, S, SS.
Credits: 5
Theories of production, determination of prices and distribution of income in regulated and unregulated industries. Attention is also given to the problems of industrial relations, monopolies, and to comparative economic systems.

ECO 2620 (ES 211) Economic History of the United States. S.
Credits: 4
Industrial development of America; exploitation of natural resources; history of manufacturing, banking, trade, transportation, etc., the evolution of industrial centers; the factors contributing to the growth of the United States.

ECO 3251 (ES 301) National Income Determinants and Policy. F, W, S, SS.
Credits: 5; Prereq: ES 302. Not for economics majors. Student may not receive credit for both ES 301 and ES 401.
National economic goals; the determinants of national income, consumption, investment, employment, money and prices; and the role of monetary and fiscal policy in attaining these goals.

ECO 3100 (ES 302) Prices and Markets. F, W, S, SS.
Credits: 3; Prereq: ES 201-202. Not for economics majors. Student may not receive credit for both ES 302 and ES 402.
The determination of prices and outputs of firms and industries under various market conditions. Reliance is placed upon both theory and applications.

ECO 3213 (ES 321) Monetary Economics. F, W, S.
Credits: 4; [Ident with FI 321]; Prereq: ES 401 or ES 301.
Analysis of monetary systems and the relationships between money, prices, production, and employment. Factors determining the money supply, with emphasis on the role of commercial and central banks, and money demand.

ECP 3303 (ES 331) Environmental Economics and Resource Policy. S.
Credits: 4
The relations between environmental quality, resource utilization, and economic institutions and policy. An examination of alternative strategies and policies in solving the problems of environmental quality and resource scarcity.

ECO 3703 (ES 341) International Economics. F, S.
Credits: 5; Prereq: ES 302 or ES 402 or permission of instructor.
Theory of international trade, significance of geographic, economic, social and political influences, current problems and tendencies in international trade and payments, tariffs, and other barriers to world trade, and national policies affecting foreign commerce.

ECS 3403 (ES 345) Industry and Trade of Latin America. S.
Credits: 3
The industrial importance of several Latin American Countries; the development of the industries in each country, the volume and types of exports and imports as well as the trade practices and customs of these countries.

ECP 3433 (ES 351) Transportation Economics. S.
Credits: 5; Prereq: ES 202.
General survey of the significance, characteristics and major problems of inter- and intra-city transportation.

ECP 3423 (ES 354) Public Utility Economics. W.
Credits: 3; Prereq: ES 201-202.
The nature, place and development of public service corporations; types of public control; valuation and ratemaking regulation of service, accounts, reports, and securities; combinations; public relations, public ownership.

††Grading is on a S-U basis only.

Descriptions

ECONOMICS

ECO 3411 (ES 361) Economic and Business Statistics. F, W, S, SS.
Credits: 4; Prereq: STA 320.
Introduction to properties of estimators, linear regression, analysis of variance, and non-parametric tests. Application of these tools to problems.

ECP 3203 (ES 372) Labor Problems. F.
Credits: 5; Prereq: ES 202.
Insecurity, wages and income, hours, substandard workers; industrial conflict, unionism in its structural and functional aspects, employee representation, employers' associations; labor legislation, settlement of industrial disputes.

ECP 3141 (ES 377) The Economics of Women.
Credits: 3
An analysis of women's labor force activity, past and present, in various economic and political systems. Relationship of women's labor force activity, past and present in various economic and political systems. Relationship of women's role to the operation of the economic concepts involved in the role of women in the marketplace and in the household and family; women's services as public and private goods.

ECP 3000 (ES 390) Economic Issues of the '70s. W.
Credits: 2††
A series of lectures by distinguished visiting economists addressing important and current economic questions of American Society. May be repeated up to a maximum of 4 credits.

ECO 4935 (ES 400) Senior Seminar in Economics. S.
Credits: 3; Prereq: Advanced standing and permission of economics advisor. May be repeated for credit with change of content for a maximum of 9 credits.
Seminar in contemporary economic problems and issues. An intensive study of a specific area of public policy including current literature and research methods.

ECO 4205 (ES 401) Macroeconomic Theory. F, W, S, SS.
Credits: 4; Prereq: ES 302 or ES 402 or permission of department.
Primarily designed for majors in economics. Theoretical determinants of aggregate employment, income, expenditures and the price level. Keynesian and neoclassical models are analyzed.

ECO 4101 (ES 402) Microeconomic Theory. F, W, S, SS.
Credits: 5; Prereq.: ES 201-202. Primarily designed for majors in economics.
Nature, scope, and purpose of economic analysis. Examines the theory of consumer behavior, production, costs, firm behavior, and the allocation of resources.

ECO 4303 (ES 405) Introduction to the History of Economic Thought. W.
Credits: 5.
Leading ideas of the key contributors to the development of modern economic thought as set forth in their original works, with attention to the historical context and problems from which these ideas have emerged.

ECO 4633 (ES 410) Development of Modern Western Economy.
Credits: 5; Prereq: ES 301 or ES 401.
An analytical study of the economic development of Western Europe from the commercial revolution to the decline of British dominance in the world economy.

ECO 4634 (ES 411) Development of Modern Western Economy.
Credits: 5; Prereq: ES 301 or ES 401.
A continuation of ES 410. Twentieth century economic history.

††Grading is on an S/U basis only.

ECS 4334 (ES 413) Economic and Social History of Modern Russia and the Soviet Union.
Credits: 4; (Ident. with HY 413).
A survey from Tripoli to the Soviet Union. The development of agriculture, industry, and trade and their institutional manifestations; growth theory and conditions of economic growth.

ECO 4622 (ES 414) United States Economic Development. S.
Credits: 5; Prereq: ES 301, or ES 401.
A study of American development from colonial times to the present, focusing on the sources of growth and institutional change. Emphasis on the analytical use of theory and statistics.

ECP 4143 (ES 415) Blacks in the American Economy. W.
Credits: 5
A case study of the Economics of Discrimination; the role played by Blacks in the U.S. economy, with emphasis on contributions and areas of conflict.

ECS 4013 (ES 418) Economic Development. S.
Credits: 4; Prereq: ES 201-202.
Problems and policies of modernization related to economic change and growth in the third world. Empirical and theoretical case studies. Area study and formulation of development projects and programs.

ECO 4504 (ES 431) Public Finance. F, W, S.
Credits: 4; Prereq: ES 201-202.
Principles governing expenditures of modern government; sources of revenue; public credit; fiscal policy; principles and methods of taxation and financial administration.

ECO 4713 (ES 444) International Economic Relations. W.
Credits: 4; Prereq: ES 302 or ES 402 or permission of instructor.
The development of international economic policies; geographic, economic, social and political factors underlying contemporary international problems; economic and political methods employed by the leading commercial nations.

ECS 4203 (ES 448) Economies of East Asia.
Credits: 4; Prereq: ES 201-202 or permission of instructor.
Emphasis on Japan and China. Growth patterns and institutional frameworks compared to those of other countries. Quantitative trends of gross national product and qualitative assessments of industrial organization, labor relations, agricultural technology, and government policies.

ECS 4003 (ES 449) Comparative Economic Systems. W.
Credits: 4
The economies of capitalism, socialism, communism, and fascism. The United States, Soviet Russia, England, Nazi Germany, and Fascist Italy are compared on the basis of industrial production, agriculture, exchange, credit and banking, income distribution, the status of labor, and international trade.

ECP 4403 (ES 455) Government Regulation of Business. F. S.
Credits: 5; Prereq: ES 302 or ES 402 or permission of instructor.
The evolution of economic regulation, chief methods of effectuating governmental regulation; the relationship between government and non-public utility monopolies; Federal Trade Commission regulation of competitive practices; a critical appraisal of recent developments in the field of governmental regulation.

ECO 4431 (ES 469) Analysis and Forecasting of General Business Fluctuations. S.
Credits: 3; Prereq: STA 320.
Mathematical and statistical theory of the relationship of important variables in the business cycle, such as profits, the price level, wages, national income, employment, savings and investments. Application of this theory to business forecasting.

ECP 4602 (ES 481) Urban Economics.
Credits: 5; Prereq: ES 201-202 or permission of instructor.
Economic analysis of urbanization and the spatial distribution of economic activities. Analytical tools are developed and applied to urban and regional problems such as: growth and decay, housing, land use, and transportation.

SSI 4601 (ES 491) Masterpieces in the Social Sciences 1. F.
Credits: 4; (Ident. with HY 491, PCL 491, SY 491); Prereq: Senior standing.
For advanced students with background work in the social sciences who have approval of their major adviser and the course chairman. Reading of classics in economics, history, political science, sociology and cultural anthropology.

SSI 4602 (ES 492) Masterpieces in the Social Sciences 2. W.
Credits: 4; (Ident. with HY 492, PCL 492, SY 492); Prereq: Senior standing.
The second part of the course ES 491-492-493.

SSI 4603 (ES 493) Masterpieces in the Social Sciences 3. S.
Credits: 4; (Ident. with HY 493, PCL 493, SY 493); Prereq: Senior standing.
The third part of the course ES 491-492-493.

ECO 4905 (ES 496) Individual Work. F, W, S, SS.
Credits: 1 to 5; Prereq: 15 hours of economics and permission of department.
For advanced undergraduate students who need to supplement regular course work by individual studies under guidance. May be repeated with change of content up to a maximum of 10 credits.

ECO 4934 (ES 498) Special Topics. F, W, S, SS.
Credits: 1 to 5; Prereq: Permission of department.
Course of variable content providing an opportunity for the study in depth of topics not offered in other courses. May be repeated with change in content up to a maximum of 10 credits.

GRADUATE COURSES

For admission to courses listed below, the student must have been admitted to the Graduate School, and normally should have had undergraduate courses in fields pertinent to the graduate course selected; or where necessary, special arrangements may be made with the approval of the department head.

Though no graduate major may be completed without adequate course work on the 600 or higher level, certain undergraduate courses in economics are available for graduate credit as a part of a candidate's major. These are: ES 513 — Economic and Social History of Russia; ES 521 — Central Banking and Monetary Policies; ES 531 — Central Government Finance; ES 535 — State and Local Finance; ES 543 — Foreign Exchange and International Financial Institutions; ES 545 — Financial Institutions and Fiscal Policies of Selected Latin American Countries; ES 547 — Contemporary Economic Problems in Sub-Sahara Africa; ES 561-562 — Econometrics; ES 572 — Economics of the Labor Market; ES 580 — Regional Economics; ES 581 — Urban Economics; ES 585 — Economics of Human Resource Development; ES 586 — Special Problems in Urban and Regional Economics.

ECO 5204 (ES 501) Macroeconomic Theory.
Credits: 5

ECO 5111 (ES 502) Macroeconomic Theory.
Credits: 5

ECO 5227 (ES 521) Central Banking and Monetary Policy.
Credits: 5; Prereq: ES 321 or its equivalent.

ECO 5545 (ES 531) Central Government Finance.
Credits: 5; Prereq: ES 201-202

ECO 5556 (ES 535) State and Local Finance.
Credits: 5; Prereq: ES 201-202.

ECO 5566 (ES 536) Government Budgeting and Financial Administration.
Credits: 3; Prereq: Permission of department.

ECO 5716 (ES 543) Foreign Exchange and International Financial Institutions.
Credits: 3; Prereq: Permission of department.

ECS 5425 (ES 545) Financial Institutions and Fiscal Policies of Selected Latin American Countries.
Credits: 3

ECS 5115 (ES 547) Contemporary Economic Problems in Sub-Sahara Africa.
Credits: 3

ECS 5005 (ES 549) Comparative Analysis of Economic Systems.
Credits: 4; Prereq: Permission of department.

ECO 5424 (ES 561) Econometric Models and Methods 1.
Credits: 5

ECO 5425 (ES 562) Econometric Models and Methods 2.
Credits: 5

ECP 5205 (ES 572) Economics of the Labor Market.
Credits: 5; Prereq: ES 372

ECP 5624 (ES 580) Regional Economics.
Credits: 5

ECP 5614 (ES 581) Urban Economics.
Credits: 5; Prereq: ES 201-202 and permission of department.

ECP 5106 (ES 585) Economics of Human Resource Development.
Credits: 3; Prereq: ES 302 or equivalent.

ECP 5606 (ES 586) Special Problems in Urban and Regional Economics.
Credits: 5

ECO 6206 (ES 601) Macroeconomic Theory
Credits: 5

ECO 6116 (ES 602) Price Theory.
Credits: 5

ACC 6811 (ES 603) Social and Economic Accounting.
Credits: 5

ECO 6136 (ES 604) Capital Theory, Production, and Growth.
Credits: 5

ECO 6305 (ES 605) The Development of Economic Thought 1.
Credits: 5

ECO 6306 (ES 606) The Development of Economic Thought 2.
Credits: 5

ECO 6315 (ES 608) Present-Day Schools of Economic Thought.
Credits: 5

ECO 6626 (ES 610) The American Economy to 1860.
Credits: 5

ECO 6627 (ES 611) The American Economy Since 1860.
Credits: 5

ECO 6617 (ES 614) The United States in the World Economy (1783-1960).
Credits: 5

ECP 6705 (ES 615) Economics of Business Decisions.
Credits: 5

ECO 6433 (ES 616) Macroeconomic Models and the Firm.
Credits: 5

ECS 6015 (ES 617) Theory of Economic Development.
Credits: 5

ECS 6025 (ES 618) Economic Development Seminar.
Credits: 5

ECO 6216 (ES 621) Monetary Economics 1.
Credits: 5

ECO 6266 (ES 622) Monetary Economics 2.
Credits: 5

ECO 6236 (ES 625) Seminar in Monetary Economics.
Credits: 5

ECO 6516 (ES 632) Public Revenue and Distribution.
Credits: 5

ECO 6257 (ES 633) Stabilization Policy.
Credits: 5

ECO 6536 (ES 634) Public Expenditures and Collective Decisions.
Credits: 5

ECO 6526 (ES 635) Welfare Economics.
Credits: 5

ECO 6706 (ES 641) Theory of International Trade.
Credits: 5

ECO 6717 (ES 644) International Economic Relations.
Credits: 5

ECS 6405 (ES 645) The Economy of Spanish Latin America.
Credits: 5

ECS 6415 (ES 646) The Economy of Brazil.
Credits: 5

ECS 6426 (ES 647) Financial and Fiscal Institutions of Selected Sub-Saharan Countries.
Credits: 5

ECS 6006 (ES 649) Economic Systems Seminar.
Credits: 5

ECP 6426 (ES 654) Economics of Regulated Industries.
Credits: 5

ECP 6405 (ES 655) Industrial Organization and Social Control.
Credits: 5

ECP 6407 (ES 657) Problems in Social Control.
Credits: 5

ECO 6407 (ES 660) Nonstochastic Models.
Credits: 5

ECO 6426 (ES 661) Econometric Methods 1.
Credits: 5

ECO 6427 (ES 662) Econometric Methods 2.
Credits: 4

ECO 6428 (ES 663) Research Seminar in Econometrics.
Credits: 1 to 3

ECO 6405 (ES 665) Mathematical Economics 1.
Credits: 5

ECO 6406 (ES 666) Mathematical Economics 2.
Credits: 5

ECO 6435 (ES 669) Problems in Statistics and Business Forecasting.
Credits: 5

ECP 6216 (ES 672) Organized Labor in the United States.
Credits: 5

ECP 6225 (ES 673) Labor Markets, Manpower and Public Policy.
Credits: 5

ECP 6207 (ES 674) Labor Economics.
Credits: 5

ECP 6536 (ES 675) Health Care Economics 1.
Credits: 5

ECP 6537 (ES 676) Health Care Economics 2.
Credits: 5

ECP 6625 (ES 680) Regional Economics.
Credits: 5

ECP 6615 (ES 681) Urban Economics.
Credits: 5

ECO 6115 (ES 692) Neo-Classical Economics.
Credits: 5

ECP 6906 (ES 696) Individual Work in Economics.
Credits: 1 to 5; Maximum credits: 10.

ECO 6917 (ES 697) Supervised Research.
Credits: 1 to 5††
Credit not applicable toward degree. May be repeated.

ECO 6948 (ES 698) Supervised Teaching.
Credits: 1 to 5††
Credit not applicable toward degree. May be repeated.

ECO 6971 (ES 699) Master's Research.
Credits: 1 to 15††

ECO 7207 (ES 701) Advanced Macroeconomic Theory.
Credits: 5

ECO 7117 (ES 702) Advanced Microeconomic Theory.
Credits: 5

ECO 7938 (ES 730) Advanced Economic Seminar.
Credits: 1 to 5

ECO 7980 (ES 799) Doctoral Research.
Credits: 1 to 15††

COUNSELOR EDUCATION DEPARTMENT

College of Education

INSTRUCTIONAL STAFF 1976-77

Wittmer, P.J., Chairman; Amatea, E.; Clark, E.B.; Cranney, A.G.; Goodale, T.; Landsman, T.; Lane, D.; Larson, J.; Lee, R.E.; Loesch, L.C.; McDavis, R.J.; McMillin, M.R.; Meek, P.; Myrick, R.D.; Riker, H.C.; Saxon, J.; Schauble, P.; Seiler, G.; Sharp, B.L.; Stripling, R.O.; Tolbert, E.L.

EGC 3720 (EDC 301) Student Development in a University Setting. F, W, S.
Credits: 3; (Grading on S-U basis only.)
Course available to selected undergraduate students only. Examines factors affecting student growth and development in the university setting, current problems facing students, and the use of group processes and leadership training in solving problems and facilitating growth. Course may be repeated with a change of content to a maximum of 9 credits.

EGC 4033 (EDC 450) Interpersonal Communication Skills for Teachers.
Credits: 4
The application of basic principles of a helping relationship in the classroom with emphasis on the affective dimensions of teaching. Attention

††Grading is on a 5-U basis only.

will be given to using basic guidance and counseling strategies and psychological techniques as an aid to instruction.

GRADUATE COURSES

EGC 6005 (EDC 610) Principles of Guidance: The Helping Relationship.
Credits: 4

EGC 6317 (EDC 611) Vocational Development.
Credits: 4

EGC 6405 (EDC 612) Modern Counseling and Personnel Work.
Credits: 4

EGC 6225 (EDC 613) Personnel Testing.
Credits: 4

EGC 6416 (EDC 614) Counseling Theory.
Credits: 5

EGC 6606 (EDC 618) Organization and Administration of Guidance and Personnel Programs.
Credits: 4

EGC 6447 (EDC 620) Laboratory in Counseling.
Credits: 1

EGC 6726 (EDC 621) Sensitivity Exploratory Laboratory.
Credits: 1

EGC 6465 (EDC 622) Counseling with Children.
Credits: 4

EGC 6505 (EDC 623) Group Procedures in Guidance and Personnel Work.
Credits: 4

EGC 6545 (EDC 624) Group Counseling.
Credits: 4

EGC 6466 (EDC 626) Play Therapy and Play Process With Children.
Credits: 4

EGC 6467 (EDC 627) Counseling Older Persons.
Credits: 4

EGC 6461 (EDC 628) Drug Abuse: The Counselor's Role.
Credits: 4

EGC 6463 (EDC 629) Counseling Ethnic Minorities.
Credits: 4

EGC 6055 (EDC 640) Student Personnel Services in Higher Education.
Credits: 4

EGC 6745 (EDC 641) The College Community and the Student.
Credits: 4

EGC 6426 (EDC 658) Counseling in Community Settings.
Credits: 4

EGC 6934 (EDC 659) Seminar in Professional Development.
Credits: 2

EGC 6054 (EDC 660) Problems in Personnel Work.
Credits: 3 to 10.

EGC 6938 (EDC 690) Special Topics.
Credits: 2 to 5. Maximum of 15 credits.

EGC 6905 (EDC 696) Individual Work.
Credits: 2 to 5; Maximum of 15 credits.

EGC 6915 (EDC 697) Supervised Research.
Credits: 1 to 5††

††Grading is on a S-U basis only.

EGC 6940 (EDC 698) Supervised Teaching.
Credits: 1 to 5††

EGC 7329 (EDC 701) Seminar in Career Development.
Credits: 4

(EDC 708) Practicum in Counseling Psychology.
Credits: 5, max. of 20.

(EDC 709) Practicum in Psychological Assessment.
Credits: 5

EGC 7446 (EDC 710) Practicum in Counseling.
Credits: 5. Maximum of 25 credits.

EGC 7585 (EDC 711) Practicum in Group Counseling.
Credits: 5. Maximum of 15 credits.

EGC 7840 (EDC 712) Practicum in Student Personnel Work.
Credits: 5. Maximum of 15 credits.

EGC 7852 (EDC 714) Practicum in Counseling Older Persons.
Credits: 5

EGC 7937 (EDC 715) Seminar in Personnel Work.
Credits: 5

EGC 7890 (EDC 716) Internship in Personnel Work 1.
Credits: 5

EGC 7890 (EDC 717) Internship in Personnel Work 2.
Credits: 5

EGC 7890 (EDC 718) Internship in Personnel Work 3.
Credits: 5

(EDC 719) Internship in Counseling Psychology.
Credits: 5

EGC 7706 (EDC 721) Consultation Procedures.
Credits: 4

EGC 7616 (EDC 722) Evaluative Research in Counseling, Guidance, and Personnel Work.
Credits: 5

EGC 7485 (EDC 723) Seminar in Counseling Research.
Credits: 4

EGC 7055 (EDC 740) Seminar in Higher Educ. Student Pesonnel.
Credits: 1 to 2.

EGC 7980 (EDC 799) Doctoral Research.
Credits: 1 to 15††

EDUCATION-FOUNDATIONS
College of Education

INSTRUCTIONAL STAFF 1976-77

Sherman, R.R. Chairman; Andrews, S.D.; Ashton, P.F.; Avila, D.L.; Baker, M.C.; Bengston, J.K.; Brown, B.B.; Busby, W.A.; Crocker, L.M.; Curran, R.L.; Gordon, I.J.; Greenwood, G.E.; Guertin, W.H.; Guinagh, B.J.; Hines, V.A.; Jester, R.E.; Koran, M.L.; Lewis, H.G., Sr.; Newell, J.M.; Newman, A.J.; Primack, R.B.; Renner, R.R.; Soar, R.S.; Ware, W.B.; Wass, H.L.; Webb, R.B.; White, A.O.

EDF 3514 (EDF 300) History of Education in the United States. F, W, S, SS.
Credits: 5.
The development of American schools and major problems in American education, with emphasis upon the relationships among the schools, intellectual movements, and social institutions.

EDF 3604 (EDF 320) Social Foundations of Education. F, W, S, SS.
Credits: 5
A study of the educative effects of our social structures, the social values and issues involved in appraising these effects, and the resulting social demands upon the schools.

EDF 3122 (EDF 341) The Young Child. F, W, S, SS.
Credits: 5
Study of growth and development during infancy and early childhood. Laboratory includes observation and participation in nursery school and kindergarten.

EDF 3135 (EDF 342) The Adolescent. F, W, S, SS.
Credits: 5; Prereq: Permission of departmental representative for lower division students.
The special role that the adolescent plays in total development. Emphasis is on the psychosocial development of the adolescent in the school.

EDF 3110 (EDF 345) Human Growth and Development. F, W, S, SS.
Credits: 5; Prereq: Permission of departmental representative for lower division students.
An analysis of the principles of human development as they apply to understanding pupil behavior in the classroom. Observation in the P.K. Yonge Laboratory School is required.

EDF 3935 (EDF 390) Special Topics. F, W, S, SS.
Credits: 1 to 5; Max.: 15; Prereq: Consent of department chairman.

EDF 4542 (EDF 410) Philosophy of Education. F, W, S, SS.
Credits: 5
A critical examination is made of various theories and philosophies of education, their relationships to the democratic principle, and their significance to the evolving system of education in the United States.

EDF 4710 (EDF 431) Comparative Education. F, W, S, SS.
Credits: 5; Prereq: Permission of departmental representative for lower division students.
A survey of educational problems in contemporary foreign countries with emphasis upon their implications for the United States.

EDF 4780 (EDF 433) Education and the World Community. F, W, S, SS.
Credits: 5
The relationship between the school and the student's development of a world-minded disposition, with an examination of curricula implications.

EDF 4114 (EDF 440) Dynamics of Human Development. F, W, S, SS.
Credits: 5; Prereq: EDF 345 or equivalent.
The dynamics of personality development with implications for classroom practice. Particular attention will be given to the development of self in childhood and adolescence.

EDF 4210 (EDF 442) Educational Psychology. F, W, S, SS.
Credits: 5
An understanding of the applications of psychological principles to the educational process. It treats such topics as individual differences, principles of learning, transfer of training, and the nature of reasoning.

EDF 4430 (EDF 450) Measurement and Evaluation in Education. F, W, S, SS.
Credits: 5
Study is made of the basic principles and methods of measurement and evaluation of pupil learning in schools.

EDF 4905 (EDF 496) Individual Work. F, W, S, SS.
Credits: 1 to 5
May be repeated with change of content up to a maximum of 10 credits. For undergraduate students of Upper Division status, who wish to explore areas of inquiry in psychological, social, or philosophical foundations of education, or research or measurement, under faculty guidance.

GRADUATE COURSES

(EDF 543) Principles of Learning and Instructional Practice.
Credits: 5

EDF 6520 (EDF 600) History of Education.
Credits: 5

EDF 6525 (EDF 601) Ancient and Medieval Education.
Credits: 5

EDF 6544 (EDF 610) Philosophical Foundations of Education.
Credits: 5

EDF 6606 (EDF 620) Socio-Economic Foundations of Education.
Credits: 5

EDF 6630 (EDF 625) Educational Sociology.
Credits: 5

EDF 6712 (EDF 631) Comparative Education.
Credits: 5

EDF 6720 (EDF 632) Education in Latin America.
Credits: 5

EDF 6113 (EDF 640) Educational Psychology: Human Development.
Credits: 5

EDF 6355 (EDF 641) Educational Psychology: Personality Dynamics.
Credits: 5

EDF 6218 (EDF 642) Educational Psychology: Problems.
Credits: 5

EDF 6215 (EDF 643) Educational Psychology: Learning Theory.
Credits: 5

EDF 6111 L (EDF 644) Laboratory in Human Development 1.
Credits: 5

EDF 6112 L (EDF 645) Laboratory in Human Development 2.
Credits: 5

EDF 6211 (EDF 646) Educational Psychology: General.
Credits: 5

EDF 6118 (EDF 647) Educational Psychology: Aging and Education.
Credits: 5

EDF 6119 (EDF 648) Educational Psychology: Death Education.
Credits: 4

EDF 6943 (EDF 649) Practicum in Educational Psychology.
Credits: 5

EDF 6436 (EDF 650) Introduction Theory of Measurement.
Credits: 5

EDF 6401 (EDF 660) Educational Statistics.
Credits: 4

EDF 6940 (EDF 662) Practicum in Educational Research.
Credits: 3 to 12

EDF 6481 (EDF 663) Research Methods in Education.
Credits: 5

EDF 6487 (EDF 665) Assessment of Classroom Behavior.
Credits: 4

EDF 6933 (EDF 666) Seminar on Research on Effective Teaching.
Credits: 4

EDF 6938 (EDF 690) Special Topics.
Credits: 2 to 5

EDF 6910 (EDF 696) Individual Work.
Credits: 1 to 5. Maximum of 15 credits.

EDF 6910 (EDF 697) Supervised Research.
Credits: 1 to 5††

EDF 6941 (EDF 698) Supervised Teaching.
Credits: 1 to 5††

EDF 6971 (EDF 699) Master's Research.
Credits: 1 to 15

EDF 7584 (EDF 701) Educational Classics.
Credits: 5

EDF 7555 (EDF 710) Education and Moral and Spiritual Ideas.
Credits: 5

EDF 7575 (EDF 711) Theories of Mind.
Credits: 5

EDF 7573 (EDF 712) Contemporary Educational Theories.
Credits: 5

EDF 7608 (EDF 720) School and Society.
Credits: 5

EDF 7639 (EDF 725) Research in Educational Sociology.
Credits: 5

EDF 7146 (EDF 740) Educational Psychology: Cognition in the Educative Process.
Credits: 5

EDF 7149 (EDF 741) Educational Implications of Perceptual Psychology.
Credits: 5

EDF 7229 (EDF 743) Advanced Educational Psychology: Learning.
Credits: 5

EDF 7198 (EDF 747) Advanced Educational Psychology: Seminar in Aging and Education.
Credits: 5

EDF 7486 (EDF 760) Methods of Educational Research.
Credits: 4

EDF 7405 (EDF 764) Advanced Quantitative Foundations of Educational Research.
Credits: 5

EDF 7931 (EDF 765) Seminar in Educational Research.
Credits: 4

EDF 7932 (EDF 766) Analysis of Educational Research.
Credits: 4

EDF 7491 (EDF 768) Evaluation of Educational Products and Systems.
Credits: 5

EDF 7934 (EDF 780) Seminar in Educational Foundations.
Credits: 5

EDF 7980 (EDF 799) Doctoral Research.
Credits: 1 to 15††

EDUCATIONAL ADMINISTRATION AND SUPERVISION

College of Education

INSTRUCTIONAL STAFF 1976-77

Wattenbarger, J.L, Chairman; Alexander, S.K.; Clark, P.A.; Cole, T.W.; Forgnone, C.J.; Franklin, H.; Hass, C.G.; Jordan, K.P.; Kimbrough, R.B.; Myers, R.B.; Nickens, J.M.; Nunnery, M.Y.; Sandeen, A.; Todd, E.A.; Mautz, R.; Paterno, D.L.; Hale, J.A.

GRADUATE COURSES

EDA 6061 (EDA 600) Educational Organization and Administration.
Credits: 4

EDA 6510 (EDA 601) Organization and Administration of Elementary Schools
Credits: 4

EDA 6530 (EDA 602) Organization and Administration of Secondary Schools.
Credits: 4

EDA 6242 (EDA 603) Public School Finance.
Credits: 4

EDA 6232 (EDA 604) Public School Law.
Credits: 4

EDA 6201 (EDA 605) Business Affairs in Education.
Credits: 4

EDA 6940 (EDA 606) Supervised Practice in School Administration.
Credits: 4††. Maximum of 8 credits.

EDA 6222 (EDA 607) Administration of School Personnel.
Credits: 4

EDA 6203 (EDA 608) Educational Budgeting and Accounting Systems.
Credits: 4

EDA 6931 (EDA 609) Problems in School Administration and Supervision.
Credits: 4 to 15; Maximum of 15.

ADE 6260 (EDA 610) Organization and Administration of Adult Education.
Credits: 4

ADE 6262 (EDA 615) Principles of Community Education Administration.
Credits: 4

(EDA 616) Theories and Practices of Community Education Administration.
Credits: 4; Prereq: EDA 615.

EDA 6225 (EDA 617) Labor Relations in Public Education.
Credits: 4

EEX 6511 (EDA 620) Administration in Special Education.
Credits: 4

EDA 6192 (EDA 631) Educational Leadership 1.
Credits: 4

EDA 6195 (EDA 632) Educational Leadership 2.
Credits: 4

EDA 6271 (EDA 640) Utilization of Computers in Educational Administration.
Credits: 4

EDA 6105 (EDA 641) Operations Research in Educational Administration.
Credits: 4; Prereq: EDA 640 and Statistics course.

EDA 6931 (EDA 690) Special Topics.
Credits: 2 to 5. Maximum of 15 credits.

EDA 6905 (EDA 696) Individual Work.
Credits: 2 to 5. Maximum of 15 credits.

EDA 6910 (EDA 697) Supervised Research.
Credits: 1 to 5††

EDA 6941 (EDA 698) Supervised Teaching.
Credits: 1 to 5††

(EDA 699) Master's Research.
Credits: 1 to 15††

††Grading is on a S-U basis only.

Descriptions

GENERAL TEACHER EDUCATION

EDA 7205 (EDA 700) Educational Planning.
Credits: 4

EDA 7260 (EDA 702) Planning Educational Facilities.
Credits: 4

EDA 7244 (EDA 703) The Financing of Higher Education.
Credits: 4

EDA 7550 (EDA 704) Higher Education Administration.
Credits: 4

EDA 7236 (EDA 705) The Law and Higher Education.
Credits: 4

EDA 7103 (EDA 706) Seminar: Theories of Educational Administration.
Credits: 4

EDA 7990 (EDA 707) Research Design in Educational Administration.
Credits: 3

EDA 7565 (EDA 710) Coordination of State Systems of Higher Education.
Credits: 4

EEX 7535 (EDA 720) Seminar in Administration and Supervision of Special Education.
Credits: 4

EEX 7945 (EDA 721) Practicum: Special Education Administration.
Credits: 4 to 12.

EDA 7945 (EDA 730) Practicum in Supervision and Administration.
Credits: 3 to 15††. Maximum of 15 credits.

EDA 7980 (EDA 799) Doctoral Research.
Credits: 1 to 15††.

GENERAL TEACHER EDUCATION
College of Education

INSTRUCTIONAL STAFF 1976-77
Myers, R.B., Chairman; Ambrose, E.V.; Blume, R.A.; Breivogel, W.F.; George, P.S.; Hanes, M.L.; Hilliard, P.; Johnson, S.O.; Kinzer, S.M.; Lamme, L.L.; Morgan, E.; Oberlin, L.C.; Packer, A.B.; Schuncke, G.M.; Shea, J.J.; Tison, J.P.

EDE 3800 (EDE 311) Professional Studies in Childhood Education: First Quarter. F, W, S, SS.
Credits: 1 to 20.
Includes (a) participation in a continuous professinal seminar (b) study of content selected from the substantive areas listed below, and (c) a minimum of six hours per week in an appropriate field experience. The substantive areas are: art; curriculum, language arts, math, reading, science, social studies, music, human growth and development, social foundations.

EDE 3801 (EDE 322) Professional Studies in Childhood Education: Second Quarter. F, W, S, SS.
Credits: 1 to 20.
Includes (a) participation in a continuous professional seminar (b) study of cotent selected from the substantive areas listed under the course description of EDE 311, and (c) a minimum of six hours per week in an appropriate field experience.

ARE 3312 (EDE 332) Art Experiences with Children. F, S.
Credits: 4
Directed experiences with children. Planning, teaching, and evaluating art experiences.

††Grading is on a S-U basis.

EDE 3802 (EDE 333) Professional Studies in Childhood Education: Third Quarter. F, W, S, SS.
Credits: 1 to 20.
Includes (a) participation in a continuous professional seminar (b) study of content selected from substantive areas listed under the course description of EDE 311, and (c) a minimum of ten hours per week in an appropriate field experience.

EDE 3803 (EDE 344) Professional Studies in Childhood Education: Fourth Quarter. F, W, S, SS.
Credits: 1 to 20.
Includes (a) participation in a continuous professional seminar (b) study of content selected from the substantive areas listed under the course description of EDE 311, and (c) a minimum of ten hours per week in an appropriate field experience.

EDE 3804 (EDE 355) Professional Studies in Childhood Education: Fifth Quarter. F, W, S, SS.
Credits: 1 to 20.
Includes (a) participation in a continuous professional seminar (b) study of content selected from the substantive areas listed under the course description of EDE 311, and (c) a minimum of ten hours per week in an appropriate field experience.

EDE 4203 (EDE 400) Elementary School Today. F, W, S, SS.
Credits: 4; Prereq: Admission to Advanced Professional Sequence in Education.
Purposes, organization, and curriculum of the elemenetary school. Concurrent with EDS 400, for students in special fields desiring certification K-12.

EDE 4943 (EDE 405) Student Teaching in Elementary School. F, W, S.
Credits: 4 to 16††, may be repeated to a maximum of 16; Prereq: See "Admission to Student Teaching in Any Teacher Education Program" and approval of the Elementary staff.
Student teaching in selected classrooms of public schools; special seminars and continuous evaluation of teaching experiences.

EDE 4905 (EDE 496) Individual Study. F, W, S, SS.
Credits: 2 to 5.
Open only to selected undergraduate students who wish to study an individual problem in depth which relates to their preparation as teachers. The project must be approved and supervised by a departmental faculty member.

Graduate Courses

EDG 5940 (ED 500) Supervised Student Teaching 1.
Credits: 4

EDE 5930 (EDE 500) Seminar in Elementary Education 1.
Credits: 4

EDG 5940 (ED 501) Supervised Student Teaching 2.
Credits: 4

EEC 5945 (EDE 503) Laboratory in Nursery-Kindergarten Teaching 1.
Credits: 4

EEC 5945 (EDE 504) Laboratory in Nursery-Kindergarten Teaching 2.
Credits: 4

EDE 6205 (EDE 600) Elementary School Curriculum.
Credits: 4

EDM 6005 (ED 601) The Emergent Middle School.
Credits: 4

EDE 6225 (EDE 601) Practices in Childhood Education.
Credits: 4

EDM 6215 (EDS 601) The Junior High School Curriculum.
Credits: 4

(EDE 602) Practicum in Elementary Education.
Credits: 4 to 8; max. of 16.

ESE 6215 (EDS 602) The Secondary School Curriculum.
Credits: 4

EEC 6051 (EDE 603) Early Childhood Education 1.
Credits: 4

EDM 6945 (ED 604) Practicum in Middle School Education.
Credits: 4; max.: 12

EEC 6205 (EDE 604) Early Childhood Education 2.
Credits: 4

ESE 6235 (EDS 604) Curriculum Development Laboratory.
Credits: 2 to 5.

EEC 6405 (EDE 605) Resources for Early Childhood Education.
Credits: 4

EDE 6541 (EDE 608) Individualization of Instruction.
Credits: 4

EDG 6712 (ED 620) The Education of Culturally Disadvantaged Children and Youth.
Credits: 4

EDF 6256 (ED 625) Alternative Models for Classroom Discipline.
Credits: 4

EDS 6351 (EDE 635) Supervision of Pre-Service Teachers.
Credits: 4

EDG 6941 (ED 682) Field Laboratory for Faculty Study of Special Problems.
Credits: 3 to 9.

EDE 6932 (EDE 690) Special Topics.
Credits: 2 to 5.

EDE 6905 (EDE 696) Individual Work.
Credits: 2 to 5.

EDE 6910 (EDE 697) Supervised Research.
Credits: 1 to 5††

EDE 6943 (EDE 698) Supervised Teaching.
Credits: 1 to 5††

EDE 7247 (EDE 700) Problems in Childhood Education 1.
Credits: 4

EDE 7248 (EDE 701) Problems in Childhood Education 2.
Credits: 4

EDM 7935 (ED 702) Seminar in Middle School Education.
Credits: 4

EDE 7415 (EDE 702) Evaluation in the Elementary School.
Credits: 4

EEC 7932 (EDE 703) Seminar in Childhood Education 2.
Credits: 4 to 8.

EEC 7932 (EDE 704) Seminar in Early Childhood Education.
Credits: 2 to 8.

ESE 7922 (EDS 731) Secondary Education Colloquium.
Credits: 1††; max. of 6.

INSTRUCTIONAL LEADERSHIP AND SUPPORT
College of Education

INSTRUCTIONAL STAFF 1976-77

Alexander, W.M., Chairman; Bass, R.K.; Blair, T.R.; Crews, R.; Drummond, W.H.; Fillmer, H.T.; Hass, C.G.; Hedges, W.D.; Hensel, J.W.; Lawrence, C.D.; Lewis, A.J.; Morgan, M.K.; Powell, W.R.; Smith, A.B.; Smith, L.L.; Turner, E.C.; Wenzel, E.L.; Williams, E.L.

EME 4102 (ED 418) Audio-Visual Materials of Instruction. F, W, S, SS.
Credits: 4
A general course for teachers at all grade levels. Presents sources and methods of using audio-visual materials of instruction.

EME 4201 (ED 419) Production of Audio-Visual Materials. F, W, S.
Credits: 4; Prereq: ED 418 or consent of instructor.
The selection, production and evaluation of instructional materials with emphasis upon the production of materials by photographic processes.

RED 4147 (ED 480) Techniques of Teaching Reading. F, W, S, SS.
Credits: 4
Basic principles, techniques and materials for a developmental reading program. Emphasis is placed on methods and techniques which provide for differentiated instruction.

EDG 4905 (ED 496) Individual Study. F, W, S, SS.
Credits: 2 to 9
Open only to selected undergraduates who wish to study on an individual problem in depth which relates to their preparation as teachers. The project must be a part of the student's planned program and must be approved by and carried on under the guidance of a faculty member.

GRADUATE COURSES

EDG 6691 (ED 648) Problems in Curriculum and Instruction.
Credits: 3 to 15; maximum of 15 credits.

EDG 6941 (ED 682) Field Laboratory for Faculty Study of Special Problems.
Credits: 3 to 9; maximum of 9 credits.

EDG 6931 (ED 690) Special Topics.
Credits: 2 to 5; maximum of 15 credits.

EDG 6906 (ED 696) Individual Work.
Credits: 2 to 5; maximum of 15 credits.

EDG 6910 (ED 697) Supervised Research.
Credits: 1 to 5††

EDG 6946 (ED 698) Supervised Teaching.
Credits: 1 to 5††

EDG 6971 (ED 699) Master's Research.
Credits: 1 to 15††

EDG 7941 (ED 730) Field Experiences in Curriculum and Instruction.
Credits: 1 to 5; maximum of 15 credits.

EDG 7980 (ED 799) Doctoral Research.
Credits: 1 to 15††

Educational Media and Instructional Design

EME 6052 (ED 611) Educational Technology Readings.
Credits: 4

EME 6207 (ED 612) Media Center Production Techniques.
Credits: 4

EME 6716 (ED 613) Educational Technology Center Operations.
Credits: 4

EME 6325 (ED 614) Programmed Instructional Material.
Credits: 4

EME 6505 (ED 615) Microteaching, Instructional Television and the Classroom.
Credits: 4

EME 6105 (ED 616) Selection of Media Center Materials.
Credits: 4

EME 6805 (ED 617) Cataloging and Classification of Print and Non-Print Materials.
Credits: 4

EME 6205 (ED 618) Production Graphics.
Credits: 4

EME 6807 (ED 619) Organization of Reference Sources and Services.
Credits: 4

EME 6945 (ED 621) Practicum in Educational Media and Instructional Design.
Credits: 4 to 12.

EME 6606 (ED 622) Instructional Development.
Credits: 4

EME 6405 (ED 623) Computer Applications in Education.
Credits: 4

EME 7938 (ED 711) Seminar in Educational Media and Instructional Design.
Credits: 4

Post Secondary Education

EDH 6053 (ED 603) The Community Junior College in America.
Credits: 4

EDH 6066 (ED 640) American Higher Education.
Credits: 4

EDH 6947 (ED 641) Practicum in College Teaching 1.
Credits: 4 to 8; max. of 12.

EDH 6946 (ED 642) Practicum in College Teaching 2.
Credits: 4

EDH 6305 (ED 643) The Principles and Practices of College Teaching.
Credits: 4

EDH 7937 (ED 743) Seminar: Curriculum in Higher Education.
Credits: 4

EDG 7699 (ED 744) Seminar: Curriculum and Instruction Leadership in Postsecondary Education.
Credits: 1 to 2; max. of 8.

Reading

RED 5310 (ED 560) Reading in the Primary Grades.
Credits: 4

RED 5355 (ED 561) Reading in the Intermediate Grades.
Credits: 4

RED 5337 (ED 562) Reading in the Secondary School.
Credits: 4

RED 6548 (ED 680) Corrective Reading.
Credits: 4

RED 6805 (ED 681) Practicum in Corrective Reading.
Credits: 4

RED 6656 (ED 683) Trends in the Teaching of Reading.
Credits: 4

RED 6646 (ED 684) Problems in Reading.
Credits: 4

RED 6247 (ED 685) Organization and Supervision of School Reading Programs.
Credits: 4

RED 6447 (ED 686) Selection and Production of Reading Materials.
Credits: 4

RED 6448 (ED 687) Technology in Reading Instruction.
Credits: 4

RED 6667 (ED 688) Issues in High School and Adult Reading.
Credits: 4

RED 7819 (ED 757) Theory of Clinical Procedures in Reading.
Credits: 4

RED 7848 (ED 758) Clinical Diagnosis.
Credits: 4

RED 7818 (ED 759) Practicum in Clinical Diagnosis.
Credits: 4

RED 7938 (ED 761) Seminar in Reading.
Credits: 4

RED 7747 (ED 762) Analysis of Theory and Research in Reading.
Credits: 4; maximum of 12 credits.

RED 7947 (ED 763) Internship in Reading.
Credits: 4; maximum of 16 credits.

Supervision and Curriculum Development

EDG 6250 (ED 600) The School Curriculum.
Credits: 4

(ED 605) Contemporary Issues in Career Educations.
Credits: 4

EDG 6712 (ED 620) The Education of Culturally Disadvantaged Children and Youth.
Credits: 4

EDS 6140 (ED 633) Supervision and the Change Process.
Credits: 4

EDS 6100 (ED 634) Group Process in Education.
Credits: 4

EDG 6285 (ED 635) Evaluation in the School Program.
Credits: 4

EDS 6925 (ED 670) Workshop in Human Relations in Education.
Credits: 3 to 9; maximum of 9 credits.

EDG 7361 (ED 700) Instruction: Theory and Research.
Credits: 4

EDG 7222 (ED 701) Curriculum: Theory and Research.
Credits: 4

EDG 7795 (ED 720) Seminar in the Education of Disadvantaged Children and Youth.
Credits: 4

EDG 7391 (ED 731) Seminar on Instructional Leadership.
Credits: 4

EDG 7235 (ED 740) Programs of Teacher Education.
Credits: 4

††Grading is on a S-U basis only.

SPECIAL EDUCATION

EDG 7947 (ED 741) Internship in Teacher Education I.
Credits: 4

EDG 7948 (ED 742) Internship in Teacher Education II.
Credits: 4

EDG 7665 (ED 752) Bases of Curriculum and Instruction Theory I.
Credits: 4

EDG 7666 (ED 753) Bases of Curriculum and Instruction Theory II.
Credits: 4

Vocational, Technical and Adult Education

(EDV 302) Principles of Vocational Education, F, S, SS.
Credits: 4
Theories and principles of vocational education stressing the development, social and economic values, purposes, and scope of different programs of vocational education in our total educational program. A basic course for those preparing to teach vocational subjects.

EVT 3363 (EDV 303) Methods in Vocational Education. W, SS.
Credits: 4
General methods of teaching vocational courses.

(EDV 480) Special Methods and Materials for Teaching Vocational-Technical Health Occupations. SS.
Credits: 4
Essentials of teaching in vocational-technical health occupations education programs. Identifying and relating the roles of the health specialist as a teacher; teaching; planning, devising, and structuring learning experiences; implementing strategies; methods for measuring progress.

BTE 4906 (EDV 496) Individual Study. F, W, S, SS.
Credits: 2 to 5; maximum of 10. Prereq: Consent of the instructor.
Open only to selected undergraduate students in the upper division who wish to study an individual problem in depth which relates to their preparation as teachers of vocational education. The project must be approved and supervised by a departmental faculty member.

GRADUATE COURSES

EVT 5166 (EDV 560) Technical Education Program Development.
Credits: 4

ADE 5081 (EDV 570) Education for Adults.
Credits: 4

ADE 5472 (EDV 571) Methods, Materials and Evaluation in Adult Education.
Credits: 4

EVT 5167 (EDV 580) Curriculum and Organization in Vocational-Technical Health Occupations Education.
Credits: 4

EVT 6264 (EDV 600) Administration of Vocational Education.
Credits: 4

EVT 6161 (EDV 601) Foundations of Program Planning for Vocational Education.
Credits: 4

EVT 6365 (EDV 602) Supervision of Vocational Education.
Credits: 4

††Grading is on an S-U basis only.

EVT 6170 (EDV 660) Technical Education in Post High School Programs.
Credits: 4

EVT 6381 (EDV 661) Teaching Technical Education.
Credits: 4

ADE 6671 (EDV 670) Adult Education: Progress and Prospect.
Credits: 4

ADE 6385 (EDV 671) Teaching in Adult Education.
Credits: 4

EVT 6933 (EDV 690) Special Topics.
Credits: 2; maximum of 15 credits.

EVT 6906 (EDV 696) Individual Work in Vocational, Technical and Adult Education.
Credits: 2 to 5; maximum of 15 credits.

EVT 6915 (EDV 697) Supervised Research.
Credits: 1 to 5††

EVT 6942 (EDV 698) Supervised Teaching.
Credits: 1 to 5††

EVT 7930 (EDV 700) Seminar in Vocational and Technical Education.
Credits: 4

EVT 7762 (EDV 760) Developing Technical Programs.
Credits: 4

EVT 7661 (EDV 761) Contemporary Issues in Technical Education.
Credits: 4

ADE 7282 (EDV 770) Adult Education in the Community College. (Junior College).
Credits: 4

ADE 7672 (EDV 771) Contemporary Issues in Adult Education.
Credits: 4

SPECIAL EDUCATION
College of Education

INSTRUCTIONAL STAFF 1976-77
Forgnone, C.F., Chairman; Algozzine, R.F.; Dykes, M.K.; Mercer, C.D.; Reichard, C.L.; Reid, W.R.; Schmid, R.E.; Schwartz, S.E.; Whorton, J.E.; Wolking, W.D.

EEX 3010 (EDH 300) Principles and Practices for Teaching Exceptional Children, F, W, S, SS.
Credits: 4; Prereq.: EDF 345 or equivalent, or consent of department.
Incidence, causes, diagnosis, agencies for referral and recommended teaching procedures for the types of exceptional children found in public schools are considered.

(EDH 301) Principles and Practices for Teaching Exceptional Children in the Regular Classroom. F, S.
Credits: 2
Characteristics of, identification of, and teaching practices for exceptional children who are in the mainstream of education. Designed for general education majors, both elementary and secondary.

EMR 3050 (EDH 310) The Mentally Retarded Child. F, W, S, SS.
Credits: 4; Prereq: EDF 345, EDH 300 or consent of instructor.
Educational, psychological, sociological, and medical aspects of children and adolescents with varying degrees of retardation.

EEX 3840 (EDH 311) Laboratory Evaluation in Special Education. F, W, S, SS.
Credits: 3 to 6; Prereq: EDF 450 or equivalent.
Open only to majors in special education. Study of the measures used in evaluating children referred in special education.

EMR 4201 (EDH 400) Curriculum for the Primary Level Educable Mentally Retarded. F, S.
Credits: 5; Prereq: EDH 300 or equivalent.
The development of programs and curriculum for the education of primary educable mentally retarded pupils in the public schools.

EMR 4202 (EDH 401) Curriculum for the Intermediate Level Educable Mentally Retarded. W, SS.
Credits: 5; Prereq: EDH 300 or equivalent.
The curriculum and methodological considerations to be made for the intermediate educable mentally retarded pupils in the public schools.

EMR 4230 (EDH 402) Education of the Trainably Retarded. F, W, S, SS.
Credits: 5; Prereq.; EDH 300 or equivalent.
The development of programs and curriculum for the trainably retarded in the public schools, institutions, and privately operated schools and workshops.

EMR 4204 (EDH 403) Curriculum for the Pre-Vocational Educable Mentally Retarded, F, S.
Credits: 5; Prereq: EDH 300 or equivalent.
The development of curriculum and methodological considerations for the pre-vocational educable mentally retarded.

EMR 4214 (EDH 404) Curriculum for the Vocational Educable Mentally Retarded, W, SS.
Credits: 5; Prereq: EDH 300 or equivalent.
The development of curriculum and methodological considerations for the vocational educable mentally retarded.

EEX 4861 (EDH 405) Student Teaching — Special Education. F, W, S, SS.
Credits: 16††; Prereq: See "Admission to Student Teaching in Any Teacher Education Program," and approval of Special Education Staff.
Student teaching in selected classrooms and other situations for the education of the mentally retarded. Seminars and continuous evaluation of teaching experiences. No other courses may be taken during the student teaching quarter.

EMR 4330 (EDH 406) Methods and Materials for the Severely Retarded.
Credits: 5; Prereq.: EDH 300 or equivalent.
Methods and materials for severely retarded children, youth and adults.

EED 4011 (EDH 419) Educational Aspects of Behavioral Problems in Children and Youth.
Credits: 3 to 5; Prereq: EDH 300
An analysis of the prevailing classification systems, etiologies, characteristics and identification procedures relating to behavioral disorders in children and youth. Consideration is given to the emerging trends in the education of children and youth with behavioral problems. H grading.

EEX 4905 (EDH 496) Individual Study. F, W S, SS.
Credits: 2 to 9
Open only to selected undergraduate students who wish to study an individual problem in depth which relates to their preparation as special education teachers. The project must be approved and supervised by a departmental faculty member.

GRADUATE COURSES

EEX 6051 (EDH 600) Teaching Exceptional Children.
Credits: 4

EMR 6361 (EDH 601) Education of the Mentally Retarded.
Credits: 4

EGI 6051 (EDH 603) Education of the Gifted Child.
Credits: 4

EGI 6245 (EDH 604) Program Development for the Gifted.
Credits: 4

ELD 6947 (EDH 607) Laboratory: Evaluation in Special Education.
Credits: 3 to 6.

EEX 6863 (EDH 610) Supervised Practice in Special Education.
Credits: 16

(EDH 615) The Exceptional Child in the Mainstream of Education.
Credits: 4

EED 6221 (EDH 619) Educational Aspects of Behavioral Problems in Children and Youth.
Credits: 3 to 5.

EED 6225 (EDH 620) Educational Theories and Practices for Children with Behavioral Problems.
Credits: 3 to 5

EED 6241 (EDH 621) Educational Programming for Children with Behavioral Problems.
Credits: 5

EED 6245 (EDH 622) Resource Utilization for Children with Behavioral Problems.
Credits: 4

EEX 6521 (EDH 631) Organization and Program Planning in Special Education.
Credits: 4

EPH 6411 (EDH 651) Issues in the Education of Physically Impaired Multi-Handicapped Children.
Credits: 2 to 5.

EPH 6185 (EDH 652) Laboratory in Special Education Assessments of Severely Handicapped Children.
Credits: 3 to 5.

EPH 6395 (EDH 653) Physiological Aspects of Physical/Multiple Handicaps.
Credits: 2 to 5.

EPH 6305 (EDH 654) Educational Management of Physically Impaired/Multiple Handicapped.
Credits: 3 to 5.

ELD 6112 (EDH 661) Foundations in the Field of Specific Learning Disabilities.
Credits: 4

ELD 6936 (EDH 662) Seminar: Current Literature in Specific Learning Disabilities.
Credits: 1 to 2.

ELD 6211 (EDH 663) Foundations of Clinical Teaching — Behavioral Analysis.
Credits: 4

ELD 6111 (EDH 664) Assessment and Prescription for Specific Learning Disabilities.
Credits: 2

EEX 6883 (EDH 665) Clinical Teaching: Basic Academic Skills.
Credits: 5

ELD 6241 (EDH 667) Program Designs for Children with Specific Learning Disabilities.
Credits: 4

ELD 6937 (EDH 668) Seminar: Early Identification and Remediation of Specific Learning Disabilities.
Credits: 4

(EDH 669) Behavior Analysis Applied to Developmental Deficits.
Credits: 4

EMR 6801 (EDH 670) Practicum in Special Education: Mental Retardation.
Credits: 4 to 12.

EED 6943 (EDH 671) Practicum in Special Education: Emotional Disturbance.
Credits: 4 to 12

EPH 6942 (EDH 672) Practicum in Special Education: Physically Impaired/Multiple Handicapped.
Credits: 4 to 12

ELD 6944 (EDH 674) Practicum in Special Education: Specific Learning Disabilities.
Credits: 4 to 16.

EEX 6936 (EDH 690) Special Topics.
Credits: 2 to 5

EEX 6906 (EDH 696) Individual Work.
Credits: 2 to 5

(EDH 697) Supervised Research.
Credits: 1 to 5††

EEX 6866 (EDH 698) Supervised Teaching.
Credits: 1 to 5††

EEX 7930 (EDH 700) Seminar in Special Education.
Credits: 4

EMR 7936 (EDH 701) Seminar: Mental Retardation.
Credits: 4

EEX 7932 (EDH 702) Seminar: Current Research in Special Education.
Credits: 4

(EDH 703) Seminar: Trends in Special Education.
Credits: 4

EEX 7865 (EDH 704) Internship: Special Education.
Credits: 4 to 16

EPH 7931 (EDH 707) Seminar on Instructional Technology for Handicapped Learners.
Credits: 2 to 4

EED 7930 (EDH 720) Seminar: Program Development for Children with Behavioral Disorders.
Credits: 4

EED 7936 (EDH 721) Seminar: Education of the Emotionally Disturbed Child.
Credits: 4

ELD 7938 (EDH 750) Seminar: Advanced Topics in Learning Disorders.
Credits: 4 to 12

EPH 7937 (EDH 755) Seminar: Education of Physically Impaired/Multiple Handicapped Child in Public Schools.
Credits: 2 to 4.

EPH 7936 (EDH 756) Seminar: Education of the Severely Physically Impaired/Multiple Handicapped Child in Residential Institutions.
Credits: 2 to 4.

EEX 7980 (EDH 799) Doctoral Research.
Credits: 1 to 15††

CROSS DEPARTMENT LISTING

EEX 6511 (EDA 620) Administration in Special Education.
Credits: 4

(EDA 720) Seminar in Administration and Supervision of Special Education.
Credits: 4; max. of 12

EEX 7945 (EDA 721) Practicum: Special Education Administration.
Credits: 4 to 12

SUBJECT SPECIALIZATION TEACHER EDUCATION
College of Education

INSTRUCTIONAL STAFF 1976-77
Todd, E.A., Chairman; Bolduc, E.J.: Bernard, D.H.; Carr, G.D.; Casteel, J.D.; Ellis, B.R.; Ferguson, R.C.; Flannery, M.E.; Gregory, J.W.; Hallman, C.L.; Hipple, T.W.; Hunter, E.F.; Kantowski, E.L. ; Koran, J.J.; McGuire, V.; Newcomb, A.P.; Olson, W.; Rowe, M.B.; Timmerman, M.E.; Wright, R.G.

GENERAL COURSES

ESE 3932 (EDS 301) Selected Topics in Secondary Education. F, W, S, SS.
Credits: 1 to 3; Prereq: Consent of the Department.
Introduction to various secondary curricula areas: English, Foreign Language, Mathematics, Science, Social Studies. The student will examine in his subject field current research and will participate in supervised field experiences. May be repeated for a maximum of 12 credits.

EDM 3021 (EDS 303) The Junior High School. SS.
Credits: 4
This course deals with the background, organization, content and appropriate techniques of junior high school education.

ESE 3940 (EDS 306) Laboratory Experience in Secondary School Instruction. F, W, S, SS.
Credits: 2 to 5
Participation in the school laboratory situations with weekly conference or seminar on instructional procedures and curriculum planning to be arranged in lieu of regular class schedule. May be repeated with a change of content to a maximum of 10 credits.

ESE 3034 (EDS 331) Current Problems and Issues in Secondary Education. F, S.
Credits: 1; Prereq: Sophomore standing.
Current problems and issues presented by departmental faculty. May be repeated with change of content up to a maximum of 3 credits.

ESE 4011 (EDS 400) The Secondary School Today. F, W, S, SS.
Credits: 5; Prereq: Appropriate Psychological Foundations Course and admission to Advanced Professional Sequence.
Purposes and organization of the secondary school curriculum, guidance program, application of learning theory, student activities, evaluating and reporting student progress. Application must be made at least one month in advance of registration in Office of Undergraduate Studies, Room 134 Norman Hall. Field experiences may be required of students.

ESE 4210 (EDS 403) Secondary School Curriculum and Organization. F, W, S. SS.
Credits: 4; Prereq: EDF 342, EDS 400; taken concurrently with appropriate methods course.
Emphasis on: (1) planning, (2) classroom management, (3) motivation, and (4) evaluation. Field experiences may be required of students.

ESE 4943 (EDS 405) Student Teaching in the Secondary School. F, W, S.
Credits: 4 to 16††. May repeat to a maximum of 16; Prereq.: See "Admission to Student Teaching in Any Teacher Education Program," and approval of the Secondary Education staff.
Student teaching in selected classrooms, special seminars, and continuous evaluation of teaching experiences. No other courses may be taken during the student teaching quarter when the student is registered for 16 quarter hours.

ESE 4905 (EDS 496) Individual Study. F, W, S, SS.
Credits: 2 to 5; may be repeated with a change of content up to a maximum of 10 credits.
Open only to selected undergraduate students who wish to study an individual problem in depth which relates to their preparation as sec-

††Grading is on a S-U basis only.

SUBJECT SPECIALIZATION

ondary education teachers. The project must be approved and supervised by a departmental faculty member.

GRADUATE COURSES

ESE 6415 (EDS 605) Evaluation in the Secondary School Program.
Credits: 4

(EDS 606) Secondary School Faculty Self Study.
Credits: 5 to 10

ESE 6385 (EDS 635) Supervision of Pre-Service Teachers.
Credits: 2 to 5

ESE 6939 (EDS 690) Special Topics.
Credits: 2 to 5; max: 15

ESE 6908 (EDS 696) Individual Work.
Credits: 2 to 5; maximum of 15 credits.

(EDS 697) Supervised Research.
Credits: 1 to 5††.

ESE 6945 (EDS 698) Supervised Teaching.
Credits: 1 to 5††.

ESE 7922 (EDS 731) Secondary Education Colloquium.
Credits: 1††; max. of 6.

EDG 6971 (ED 699) Master's Research.
Credits: 1 to 15††.

EDG 7980 (ED 799) Doctoral Research.
Credits: 1 to 15††.

ART EDUCATION

EIA 3291 C (SCA 320) Metalcraft. S, SS.
Credits: 4
Creative experiences in metalcraft, tooling, etching, painting, tapping, engraving, enamel and silver jewelry. Emphasis upon techniques suitable for public school and therapy purposes. This course may be repeated once for credit.

ART 3100 C (SCA 330) Crafts. F, W, S, SS.
Credits: 4
Exploration in craft media such as leather, clay, reed, plastic, wood, and native materials. Attention directed toward creative design and function as well as craftsmanship. This course may be repeated once for credit.

EIA 3280 C (SCA 340) Woodworking. F, W, S, SS.
Credits: 4
Creative design, construction planning and execution, application of common tool techniques, wood finishing and related information. This course may be repeated once for credit.

ARE 4242 (SCA 401) Professional Studies in Art Education. F, W, S, SS.
Credits: 5
Basic introduction to content in the field of Art Education. Requirements include appropriate field experiences, media workshops and participation in a continuing professional seminar. These studies cover the areas of: A. Foundations of Art Education, and B. Art Education Curriculum.

ARE 4243 (SCA 402) Professional Studies in Art Education. F, W, S, SS.
Credits: 5
Study of content in the field of Art Education. Requirements include appropriate field experience, completion of specified competencies, and participation on a continuing professinal seminar. These studies cover the areas of: A. Foundations of Art Education and B. Art Education Curriculum.

ARE 4244 (SCA 403) Professional Studies in Art Education. F, W, S, SS.
Credits: 6
Study of content in the field of Art Education. Requirements include appropriate field experience, completion of specified competencies, and participation in a continuing professional seminar. These studies cover the areas of: A Foundations of Art Education and B. Art Education Curriculum.

ARE 3312 (EDE 332) Art Experiences with Children. F. S.
Credits: 4
Directed experiences with children. Planning, teaching, and evaluating art experiences.

GRADUATE COURSES

ARE 5313 (EDE 531) Teaching Art in Elementary School 1.
Credits: 4; Not open to students who have taken EDE 331. For in-service teachers.

ARE 5315 (EDE 532) Teaching Art in Elementary School 2.
Credits: 4; Prereq: EDE 531 or equivalent for in-service teachers.

ARE 6047 (ED 671) Foundations of Art Education.
Credits: 4

ARE 6141 (ED 673) Aesthetic Experience.
Credits: 4

ARE 6148 (ED 675) Curriculum in Art Education.
Credits: 4

ARE 6388 (ED 676) The Teaching of Art in Higher Education.
Credits: 4

ARE 6648 (ED 678) Art Education and Related Disciplines.
Credits: 4

BUSINESS EDUCATION

BTE 3365 (EDV 345) Office Procedures for Teachers. F.
Credits: 4
The principles of office management, personnel management, and office procedures with implications for teachers of business.

BTE 3367 (EDV 346) Office Machines and Data Processing for Teachers. F.
Credits: 4
For prospective business teachers. Competencies in the teaching of office machines and data processing will be stressed.

EVT 4940 (EDV 405) Student Teaching in Vocational, Technical, and Adult Education. F, W, S.
Credits: 4 to 16††; Maximum of 16 credits; Prereq: See "Admission to Student Teaching in Any Teacher Education Program."
Full time off-campus teaching in selected schools. No other courses may be taken during the student teaching quarter.

BTE 4068 (EDV 440) Principles of Business Education. F, W.
Credits: 4
Open only to business teachers and business teacher trainees. The principles, purposes, and programs of business education are studied in relation to the total secondary school program.

BTE 4364 (EDV 441) Methods and Materials for Teaching Office Education Subjects. F, W.
Credits: 4; Prereq: EDF 342.
Methods of teaching office education subjects including typewriting, shorthand, office and secretarial practice. To be taken concurrently with EDS 403.

BTE 4360 (EDV 442) Methods and Materials for Teaching Cooperative Distributive Education and Basic Business. F, W, SS.
Credits: 4; Prereq: EDF 342.
Methods and materials for teaching bookkeeping, general business, business law, salesmanship, retailing, and business arithmetic in relation to cooperative distributive education. To be taken with EDS 403 during F & W. May be taken separately during SS.

BTE 4949 (EDV 443) Supervised Work Experience in Business. S.
Credits: 5 to 10.
Practical experience in business correlated with curriculum design and instructional practices.

BTE 4762 (EDV 446) Competencies in Business Education. F.
Credits: 4
A survey of all available literature, text books, and teaching materials in the business education area will be made and competencies will be tested.

GRADUATE COURSES

BTE 6368 (EDV 640) Teaching Office Machines.
Credits: 4

BTE 6379 (EDV 641) Teaching Secretarial Studies.
Credits: 4

BTE 6378 (EDV 642) Teaching Bookkeeping and Consumer Business Subjects.
Credits: 4

BTE 6373 (EDV 643) Materials and Methods of Teaching General Business.
Credits: 4

BTE 6671 (EDV 644) Problems in Business Education.
Credits: 4

BTE 6948 (EDV 645) Seminar and Work Experience in Business Education.
Credits: 8

BTE 6371 (EDV 646) Methods and Materials for Block-Time Instruction in Office Education.
Credits: 4

BTE 6935 (EDV 647) Research Seminar in Business Education.
Credits: 4

EVT 6949 (EDV 655) Cooperative Education.
Credits: 4

ENGLISH EDUCATION

EEX 4141 (EDS 414) Methods and Materials for Speech Therapy. W.
Credits: 5; Prereq: EDF 345, EDS 400, EDE 400.
Presents methods for working as a speech therapist in public schools.

SED 4335 (EDS 419) The Teaching of Speech in the Secondary Schools. F, S.
Credits: 4; (Ident. with SCH 439). Prereq: 8 hours of Speech.
A practical philosophy of speech education as it functions at the secondary school level; methods of training in the speech arts.

LAE 4335 (EDS 474) Methods and Materials for Language Arts. F, W, S, SS.
Credits: 5; Prereq: EDF 342, EDS 400; taken concurrently with EDS 403.
Presents methods of teaching language arts in secondary schools.

††Grading is on a S-U basis only.

LAE 4235 (EDS 494) English in the Secondary School.
Credits: 4 (Ident. with EH 494).
Designed to help prepare teachers by a study of the content, materials, methods, and objectives, of the secondary English program.

GRADUATE COURSES

LAE 6319 (EDE 670) Language Arts in the Elementary School.
Credits: 4

LAE 6301 (EDE 671) Early Childhood Language Arts and Reading.
Credits: 4

LAE 6714 (EDE 672) Children's Literature in the Childhood Curriculum.
Credits: 4

LAE 6365 (EDS 670) Language Arts: Language and Composition.
Credits: 4

LAE 6366 (EDS 671) Language Arts: Literature.
Credits: 4

LAE 6945 (EDS 672) Practicum in Secondary School English.
Credits: 4

LAE 7936 (ED 770) Seminar in English Language Arts.
Credits: 4

FOREIGN LANGUAGE EDUCATION

FLE 4333 (EDS 484) Methods and Materials for Foreign Language. W.
Credits: 5; Prereq: EDF 342, EDS 400; taken concurrently with EDS 403.
Presents methods and materials of foreign language instruction, with emphasis on the newer techniques and materials.

GRADUATE COURSES

FLE 6946 (EDS 682) Practicum in Teaching Secondary School Foreign Language.
Credits: 4

FLE 6337 (EDS 685) Problems of Foreign Language Instruction in Secondary Schools.
Credits: 4

MATHEMATICS EDUCATION

MAE 4330 (EDS 454) Methods and Materials for Mathematics. F, W, S, SS.
Credits: 5; Prereq: EDF 342, EDS 400; taken concurrently with EDS 403.
Presents methods of teaching mathematics in secondary schools.

MAE 5318 (EDE 550) Teaching Modern Math in Elementary School. F, S, SS.
Credits: 4

MAE 6115 (EDE 650) Mathematics in the Elementary School.
Credits: 4

MAE 6138 (EDS 650) Mathematics in the Secondary School.
Credits: 4

MAE 6636 C (EDS 653) Laboratory Approach to Mathematics.
Credits: 3 to 6

MAE 6947 (EDS 654) Practicum in Teaching Secondary School Mathematics.
Credits: 4

MAE 7899 (ED 751) Mathematics Education Seminar.
Credits: 4

MUSIC EDUCATION

GRADUATE COURSES

MUE 6406 (ED 663) Music in the Elementary School.
Credits: 4

MUE 6416 (ED 664) Vocal Music in the Secondary School.
Credits: 4

MUE 6147 (ED 665) Orchestra Music in the Public Schools.
Credits: 4

MUE 6146 (ED 666) Band Music in the Public Schools.
Credits: 4

MUE 6080 (ED 667) Foundations of Music Education.
Credits: 4

MUE 7938 (ED 767) Music Education Seminar.
Credits: 4

SCIENCE EDUCATION

SCE 4330 (EDS 464) Methods and Materials for Science. F, W.
Credits: 5; Prereq: EDF 342, EDS 400; taken concurrently with EDS 403.
Presents methods of teaching science in secondary schools.

GRADUATE COURSES

SCE 5115 (EDE 560) Teaching Science in Elementary School.
Credits: 4

SCE 6117 (EDE 660) Science Education in the Elementary School.
Credits: 4

SCE 6237 (EDS 660) Science in the Secondary School.
Credits: 4

SCE 6736 (EDS 661) Evaluating Science Curricula in Secondary Schools.
Credits: 4

SCE 6947 (EDS 662) Practicum in Secondary Science Curriculum.
Credits: 4

SCE 7238 (EDS 761) Learning and Instruction in Secondary School Science.
Credits: 4

SCE 7949 (EDS 762) Practicum in Learning and Instruction in Secondary School Science.
Credits: 4

SCE 6140 (ED 646) The Teaching of Special Science Programs.
Credits: 3 to 6; maximum of 6 credits.

SCE 7933 (ED 760) Science Education Seminar.
Credits: 4

SOCIAL STUDIES EDUCATION

SSE 4333 (EDS 444) Methods and Materials for Social Studies. F, W, S, SS.
Credits: 5 Prereq: EDF 342, EDS 400; taken concurrently with EDS 403.
Presents methods of teaching social studies in secondary schools.

GRADUATE COURSES

SSE 6117 (EDE 620) Social Studies Education — Elementary School.
Credits: 4

SSE 6133 (EDS 640) Social Studies in the Secondary School.
Credits: 4

SSE 6377 C (EDS 642) Practicum in Secondary Social Studies Instruction.
Credits: 4

SSE 6398 (EDS 643) Microcriteria of Social Studies Teaching.
Credits: 4

SSE 7939 (ED 710) Seminar in Social Studies.
Credits: 4

ELECTRICAL ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1976-77

Chenette, E.R., *Chairman;* Bailey, R.L.; Bailey, T.L.; Boykin, W.H.; Bullock, T.E.; Chen W.H.; Childers, D.G.; Couch, L.W.; Davis, E.W.; Director, S.W.; Dominiak, K.E.; Doty, K.L.; Dove, D.B.; Durling, A.E.; Elgerd, O.I.; Forsman, M.E. (Emeritus); Green, A.E.S.; Johnson, R.C.; Kaiser, W.F.; Kalman, R.E.; Kundel, T. (Emeritus); Latour, M.H.; Li, S.S.; Lindholm, F. A.; Neugroschel, A.; Nevis, A.H.,; Nickelson, W.R.D. (Emeritus); O'Malley, J.R.; Paige, A.; Pepinsky, R.; Popov, V.M.; Priem, E.S.; Ramey, R.A.; Ryder, J.D.; Sah, C.T. (Lecturer); Sashoff, S.P. (Emeritus); Schoonmaker, L.E. (Emeritus); Shaffer, C.V.; Smallwood, M.H. (Emeritus); Smith. E.F.(Emeritus); Smith, J.R.; Su, S.Y.W.; Sullivan, R.L.; Sutherland, A.D.; Teas, D.C.; Tou, J.T.; Uman, M.A.; van der Ziel, A.; Ward, G.D.; Warren, M.E.; Watson, J.K.; Weil, J. (Emeritus); Wing, A.H.(Emeritus); Yii, R.; Zahn, M.; Zetrouer, W.R. (Emeritus).

EEL 3001 (EE 301) Introduction to Electrical Engineering. F, W, S, SS.
Credits: 5; Prereq.: MS 303, PS 216.
An introduction to systems, circuits and devices in electrical engineering.

EEL 3003 (EE 302) Elements of Electrical Engineering. F, S.
Credits: 5; Prereq.: MS 303, PS 216.
An introduction to the theory and practice of electrical engineering for students not majoring in electrical engineering; circuits, machines, electronics, and systems.

EEL 3368 (EE 304) Electronics Systems and Instrumentation. F, S.
Credits: 4; Prereq.: EE 301; Coreq.: EE 320.
Fundamental techniques of electronic instrumentation and control systems. For nonelectrical engineering majors.

EEL 3368 L (EE 305) Electrical Engineering for the Behavioral and Biological Sciences. W.
Credits: 5; Prereq.; Consent of the instructor.
Introduction to electrical circuits and instrumentation.

EEL 3001 L (EE 320) Electrical Engineering Laboratory 1. F, W, S, SS.
Credits: 1; Coreq.: EE 301.
Introductory electrical engineering laboratory in the electric instrumentation, devices, and systems.

EEL 3303 (EE 321) Electronics 1. F, W, S, SS.
Credits: 4; Prereq.: EE 301; Coreq.: EE 340.
Electronic devices and circuits.

EEL 3304 (EE 322) Electronics 2. F, W, S, SS.
Credits: 5; Prereq.: EE 321, EE 331; Coreq.: EE 420.
Continuation of EE 321.

Descriptions

EEL 3396 C (EE 325) Introduction to Physical Electronics. F,S.
Credits: 4; Prereq: EE 301.
Introduction to the principles of semiconductor electron device operation.

EEL 3111 (EE 331) Circuits 1. F, W, S, SS.
Credits: 3; Prereq.: EE 301.
Basic analysis of electric circuits.

EEL 3112 (EE 332) Circuits 2. F, W, S, SS.
Credits: 3; Prereq: EE 331.
Continuation of EE 331.

EEL 3135 (EE 333) Signals and Systems. F, W, S, SS.
Credits: 4; Prereq: EE 332.
Convolution, applications of Fourier and Laplace transforms, filters, noise, and state variable methods.

EEL 3303 L (EE 340) Electronics Laboratory 1. F, W, S, SS.
Credits: 1; Prereq.: EE 320; Coreq.: EE 321.
Electronic instrumentation, devices and systems.

EEL 3472 (EE 352) Electromagnetic Fields and Application 1. F, S.
Credits: 4; Prereq.: EE 301, MS 304.
Fundamentals of electromagnetic fields and waves.

EEL 3473 (EE 353) Electromagnetic Fields and Applications 2. W, SS.
Credits: 3; Prereq.: EE 352.
Continuation of EE 352.

EEL 3751 (EE 361) Computational Techniques. F, S.
Credits: 4; (Ident with CIS 361). Prereq.: MS 305 and ISE 350 or CIS 302 or CIS 311.
Applications of analog, digital, and hybrid computers to computation and simulation.

EEL 3218 (EE 380) Electric Energy Engineering. F, S, SS.
Credits: 3; Prereq: EE 301.
An introduction to electric energy engineering for students not majoring in electrical engineering. Magnetics, D C machines, transformers, AC motors.

EEL 3211 (EE 381) Elements of Electric Energy Engineering 1. F, W, S, SS.
Credits: 3; Prereq.: EE 301.
Rotating energy converters and transformers. Theory and design considerations. Simple system applications.

EEL 3212 (EE 382) Elements of Electric Energy Engineering 2. W, SS.
Credits: 3; Prereq.: EE 381; Coreq.: EE 430.
Static energy converters. Elements of bulk energy system operation under steady-state conditions.

EEL 4304 L (EE 420) Electronics Laboratory 2. F, W, S, SS.
Credits: 1; Prereq.: EE 340; Coreq.: EE 322.
Electronic instrumentation, devices and systems.

EEL 4373 (EE 422) Transistor Electronics. F, S.
Credits: 3; Prereq.: or Coreq.: Undergraduate course in electronics or consent of the instructor.
The electrical characteristics and circuit application of transistors.

EEL 4373 L (EE 423) Transistor Electronics Laboratory. F, S.
Credits: 1; Coreq: EE 422
The laboratory for the corequisite EE 422, Transistor Electronics.

EEL 4310 C (EE 425) Nonlinear Electronic Circuits. F, S.
Credits: 4
Design of nonlinear shaping circuits. Counting and gating circuits. Laboratory.

EEL 4331 C (EE 427) Microelectronics. W, SS.
Credits: 4; Prereq: EE 325.
Principles of microelectronics. Laboratory.

ELR 4371 C (EE 428) Principles of Solid State Devices and Practice 1. F.
Credits: 3
Physical principles of modern solid state devices and their practical applications.

ELR 4372 C (EE 429) Principles of Solid State Devices and Practice 2. W.
Credits: 3; Prereq: EE 428
Continuation of EE 428.

EEL 4201 L (EE 430) Electrical Energy Conversion Laboratory. F, W, S.
Credits: 1 Coreq: EE 382.
Electric conversion, devices, and systems.

EEL 4440 C (EE 431) Electro-Optical Devices & Systems. S.
Credits: 3; Prereq.: EE 321, 352.
Laser oscillators, amplifiers, modulators, detectors. Interfacing. System optimization. Applications: integrated optics, remote sensing, etc. Laboratory.

EEL 4514 L (EE 440) Communication Laboratory. F, W, S, SS.
Credits: 1; Prereq.: EE 420; Coreq.: EE 441.
Communication circuits and radio frequency instruments, devices, and measurements.

EEL 4514 (EE 441) Communications Systems and Components. F, S.
Credits: 4; Prereq.: EE 322 and EE 333.
Radio, television, radar and telemetry systems.

EEL 4516 (EE 443) Noise in Devices and Communication Systems. F, S.
Credits: 5; Prereq.: EE 441.
Origin, characterization, and measurement of random noise. Calculation of signal-to-noise ratios and probability of errors for communication systems.

EEL 4905 (EE 450) Electrical Engineering Projects Laboratory. F, W, S, SS.
Credits: 1; Prereq.: EE 420, EE 430, or EE 440.
This is an advanced undergraduate laboratory involving engineering applications in the various areas of electrical engineering. It may be repeated for additional credit.

EEL 4461 (EE 451) Antenna Systems. W.
Credits: 4; Prereq.: EE 353 or equivalent.
Electromagnetic field theory and its application to antenna design.

EEL 4431 (EE 452) Microwave Circuits and Technology. W.
Credits: 3; Prereq.: EE 352.

EEL 4436 L (EE 455) Microwave Laboratory. F, S.
Credits: 1; Coreq: EE 456.
The laboratory for the corequisite course EE 456, Microwave Techniques.

EEL 4436 (EE 456) Microwave Techniques. F, S.
Credits: 4; Prereq.: EE 353, EE 455.
Waveguides and resonant cavities. Methods of generating, transmitting, and receiving microwaves.

EEL 4479 (EE 458) Applications of Magnetism. F, S.
Credits: 4
Properties and processes in magnetic materials are introduced through examples such as inductors, pulse transformers, memory elements, microwave components, etc.

EEL 4712 C (EE 461) Digital Computer Principles 1. F, W, S, SS.
Credits: 4; (Ident with CIS 461).
Introduction to logic design with electronic digital integrated circuits. Applied switching algebra. Sequential circuits. Laboratory.

EEL 4713 C (EE 462) Digital Computer Principles 2. F, W, S.
Credits: 4; (Ident with CIS 462); Prereq.: EE 461; Concurrent enrollment in EE 463 is suggested.
The use of electronic digital modules to design computers. Organization and operation of computers. Hardware/software trade-offs. Design of computer interfacing. Laboratory.

EEL 4714 (EE 463) Digital Computer Principles 3. F, S.
Credits: 4; (Ident with CIS 463); Prereq.: EE 461; Concurrent enrollment in EE 462 is suggested.
Hardware/software tradeoffs in computer design. Minicomputer operation and programming. Software design for mini-computer systems and interfacing.

EEL 4657 (EE 474) Linear Control Systems. F, W, S, SS.
Credits: 4; Prereq.: EE 333 or consent of instructor.
Theory and design of linear control systems.

EEL 4204 (EE 481) The Unified Theory of Electrical Machines 1. F.
Credits: 3; Prereq.: EE 382.

EEL 4205 (EE 482) The Unified Theory of Electrical Machines 2. W.
Credits: 3; Prereq.: EE 481.

EEL 4213 (EE 483) Electric Energy Systems 1. F, W.
Credits: 3; Prereq.: EE 382.
Primary energy resources. Economical and ecological factors affecting energy conversion. Basic system requirements. Systems modeling of synchronous machines, transformers and transmission lines.

EEL 4214 (EE 484) Electric Energy Systems 2. W, S.
Credits: 3; Prereq.: EE 483.
System operation under balanced steady-state conditions. Load flow analysis and control. Optimum operating conditions. Computational considerations.

EEL 4215 (EE 485) Electric Energy Systems 3. S.
Credits: 3; Prereq.: EE 484.
System under fault conditions. Ultra-fast system transients. Medium-fast transients and short-circuit analysis. Electro-mechanical transients. Computational considerations.

ELR 4116 (EE 486) Electric Energy System Instrumentation. F, S.
Credits: 3
Instrumentation and equipment for control and protection of electric power system components. Carrier and other types of communication systems and their applications to the electric power industry.

EEL 4941 (EE 491) Creative Problem Solving. F.
Credits: 3
Development of a problem solving approach for complex electrical engineering problems with emphasis on creative techniques and the writing of meaningful engineering reports.

EEL 4930 C (EE 492) Special Topics in Electrical Engineering. F, W, S, SS.
Credits: 1 to 6; Prereq: Permission of instructor.
Special courses covering selected topics in electrical engineering. May be repeated with change of content up to a maximum of 6 credits.

EEL 4943 (EE 496) Individual Problems in Electrical Engineering. F, W, S, SS.
Credits: 1 to 5; Prereq: Recommendation of Department Chairman.
Selected problems or projects in the student's major field of engineering study. May be repeated with a change of content up to a maximum of 12 credits.

EEL 4940 (EE 499) Co-op Work Experience. F, W, S, SS.
Credits: 1 to 5; Prereq: Freshman year.
Practical co-op engineering work under approved industrial supervision.

GRADUATE COURSES

ELR 5112 (EE 514) Automatic Speech Processing. SS.
Credits: 3

ELR 5210 (EE 516) Cybernetics. F, S.
Credits: 5

EEL 5370 (EE 526) Applied Electronics. W, SS.
Credits: 4

EEL 5161 (EE 533) Computational Techniques for Circuit Analysis. F.
Credits: 4

EEL 5718 C (EE 541) Computer Communications.
Credits: 3

EEL 5719 C (EE 549) Digital Filtering.
Credits: 5

EEL 5485 (EE 558) Physical Principles of Magnetism. W.
Credits: 4

EEL 5768 (EE 562) Principles of Computer Interfacing. W.
Credits: 3

EEL 5761 (EE 564) Hardware/software Interactions: Time Sharing System. W.
Credits: 4

EEL 5821 (EE 565) Principles of Information Science. W.
Credits: 3

EEL 5769 (EE 566) Hardware/software Interactions: Non-numeric Processing. S.
Credits: 3

EEL 5762 (EE 567) Modular Design of Digital Processors. S.
Credits: 3

EEL 5562 (EE 568) Pictorial Information Processing Principles. F.
Credits: 3

EEL 5182 (EE 570) State Variable Methods in Linear Systems.
Credits: 4

EEL 5134 (EE 571) Analysis of Non-linear Systems.
Credits: 3

EEL 5934 (EE 592) Special Topics in Electrical Engineering 2. F. W, S, SS.
Credits: 1 to 4

EEL 5942 (EE 596) Individual Work.
Credits: 1 to 6.

EEL 6170 (EE 600) Elements of Linear Systems.
Credits: 3

EEL 6171 (EE 601) Advanced System Theory 1.
Credits: 4

EEL 6172 (EE 602) Advanced System Theory 2.
Credits: 3

EEL 6442 (EE 611) Physical Optics for Engineers.
Credits: 3

EEL 6443 (EE 613) Electro-Optical Devices.
Credits: 3

EEL 6444 (EE 614) Electro-Optical Systems.
Credits: 3

ELR 6225 (EE 615) Electrical Activity of the Nervous System.
Credits: 3

ELR 6226 (EE 616) Biophysical Models of Nerve Impulse Propagation.
Credits: 3

EEL 6382 (EE 617) Semiconductor Physical Electronics 1.
Credits: 3

EEL 6383 (EE 618) Semiconductor Physical Electronics 2.
Credits: 3

EEL 6384 (EE 619) Semiconductor Physical Electronics 3.
Credits: 3

EEL 6397 C (EE 620) Semiconductor Junction Devices 1.
Credits: 3

EEL 6398 (EE 621) Semiconductor Junction Devices 2.
Credits: 3

EEL 6311 (EE 622) Electronic Circuits 1.
Credits: 3

EEL 6312 (EE 623) Electronic Circuits 2.
Credits: 3

EEL 6313 (EE 624) Electronic Circuits 3.
Credits: 3

EEL 6381 (EE 625) Models and Applications of Solid-State Devices 1.
Credits: 3

EEL 6399 (EE 626) Models and Applications of Solid-State Devices 2.
Credits: 3

EEL 6388 (EE 628) Fluctuation Phenomena 1.
Credits: 3

EEL 6156 (EE 630) Advanced Circuit Analysis.
Credits: 3

EEL 6157 (EE 631) Generalized Network Theory.
Credits: 3

EEL 6162 (EE 633) Computer-Aided Circuit Design.
Credits: 4

EEL 6544 (EE 640) Noise in Linear Systems.
Credits: 5

EEL 6534 (EE 641) Theory of Communication 1.
Credits: 5

EEL 6535 (EE 642) Theory of Communication 2.
Credits: 5

EEL 6503 (EE 644) Signal Representation and Design.
Credits: 5

EEL 6524 (EE 645) Statistical Decision Theory.
Credits: 5

EEL 6509 (EE 646) Space Communications.
Credits: 5

EEL 6505 (EE 649) Digital Signal Processing.
Credits: 5

EEL 6486 (EE 651) Electromagnetic Field Theory and Applications 1.
Credits: 3

EEL 6487 (EE 652) Electromagnetic Field Theory and Applications 2.
Credits: 3

EEL 6450 (EE 653) Wave Propagation in Anisotropic Media.
Credits: 3

EEL 6824 (EE 660) Foundations of Information Science.
Credits: 3

EEL 6733 (EE 661) Analysis and Synthesis of Switching Circuits.
Credits: 3

EEL 6767 (EE 662) Computing Machine Theory.
Credits: 3

EEL 6843 (EE 663) Applications of Automata Theory.
Credits: 3

EEL 6825 (EE 664) Pattern Recognition Theory and Applications 1.
Credits: 3

EEL 6741 C (EE 667) Microprocessors: Architectures and Applications, Laboratory.
Credits: 4

EEL 6826 (EE 669) Pattern Recognition Theory and Applications 2.
Credits: 3

EEL 6614 (EE 670) Modern Control Theory 1.
Credits: 3

EEL 6615 (EE 671) Modern Control Theory 2.
Credits: 3

EEL 6616 (EE 672) Modern Control Theory 3.
Credits: 3

EEL 6622 (EE 679) Nonlinear Control Systems.
Credits: 3

EEL 6264 (EE 680) Advanced Electric Energy Systems 1.
Credits: 3

EEL 6265 (EE 681) Advanced Electric Energy Systems 2.
Credits: 3

EEL 6266 (EE 682) Advanced Electric Energy Systems 3.
Credits: 3

EEL 6267 (EE 685) Advanced Electromechanical Energy Conversion.
Credits: 3

EEL 6935 (EE 692) Special Topics in Electrical Engineering.
Credits: 1 to 6; Maximum of 18 credits.

EEL 6932 (EE 695) Graduate Seminar.
Credits: 1††; Maximum of 4 credits.

EEL 6944 (EE 696) Individual Work.
Credits: 1 to 6

EEL 6912 (EE 697) Supervised Research.
Credits: 1 to 5††

ELR 6940 (EE 698) Supervised Teaching.
Credits: 1 to 5††

EEL 6912 (EE 699) Master's Research.
Credits: 1 to 15††

EEL 7827 (EE 764) Topics in Information Storage and Retrieval.
Credits: 3

EEL 7913 (EE 799) Doctoral Research.
Credits: 1 to 15††

ENGINEERING COMMON COURSES
College of Engineering

EGN 1002 (EGC 180) Introduction to Engineering. F, W, S.
Credits: 1
The role of the engineer in today's society. A survey of the fields of engineering and technology.

EGN 1006 (EGC 183) Case Studies in Engineering. F, W, S.
Credits: 1
A continuation of EGC 180 with emphasis on a particular engineering discipline.

(EGC 210) Mechanics of Sailing. S.
Credits: 2
Hydrodynamic, aerodynamic and other forces that act on a sailing vessel. Inquires into under-

††Grading is on a S-U basis only.

water drag and lift as well as such aerodynamic aspects as apparent wind, stall, and sail interaction. Introduces the concepts of lee and weather helm, live and fixed ballast, and centers of gravity and buoyancy.

EGN 3080 (EGC 300) Man, Technology, and Civilization.
Credits: 2
The influence of engineering and technological progress upon cultural, economic and political history; the interrelationship between man's technological and social development.

EGN 3023 (EGC 301) Introduction to Physical Systems.
Credits: 2
Selected engineering problems, set in a professional context and solvable by elementary numerical methods using basic physical laws and common sense. The course provides a relationship between the physical sciences, mathematics and engineering analysis.

EGN 3082 (EGC 304) ENERGY — From Nature to Man. W.
Credits: 2
A course on energy technology aimed primarily at the nonengineering student. The approach is quantitative, but at a modest math level. Topics include: Natural resources, what they are and how much remain; ways and means of utilizing and conserving energy; new forms of energy, including solar, geothermal, nuclear.

(EGC 311) Fluid Mechnanics. F, W, S, SS.
Credits: 4; Prereq: ESM 302, MS 304.
Statics and dynamics of incompressible and compressible fluids. Equations of continuity, energy and momentum with application to viscous and inviscid flows. Dimensional analysis.

EGN 4036 (EGC 400) Engineering Ethics and Professionalism. W.
Credits: 3
A discussion of professionalism and ethics in the practice of engineering. The development of the concepts of professionalism and ethics and the traditional pracrtice of these concepts are considered in relation to changing situations in practice in a variety of employment conditions. Case histories will be discussed.

HIS 4470 (EGC 401) History of Technology I.
Credits: 4; (Ident. with HY 401)
This course examines the development of technology and engineering from antiquity to the Industrial Revolution. Emphasis will be on the relationship of the development of technology to the growth of western civilization.

HIS 4471 (EGC 402) History of Technology II.
Credits: 4; (Ident. with HY 402)
This course examines the development of technology and engineering from the beginning of the Industrial Revolution to the early twentieth century. Emphasis will be on the relationship of the development of technology to the cultural growth of western civilization.

AMH 4376 (EGC 403) History of Technology III.
Credits: 4; (Ident. with HY 403.)
This course investigates the development of technology and engineering in North America from about 1700 to the early twentieth century. It is concerned primarily with the influence of the growth of technology on the developing pattern of life in the United States.

(EGC 444) Product Liability and Engineering Expertise. F.
Credits: 2
Product liability law, concept of defect failure analysis, safety standards, legal procedures and the expert witness. Identical to MSE 444.

EGN 4730 (EGC 450) Direct Energy Conversion Engineering 1. F, S.
Credits: 3; Prereq: Senior status in engineering.
A new technology resulting from space related activities for generating electrical energy by methods other than classic rotating machines. Engineering fundamentals. Thermoelectrics and thermionics.

EGN 4731 (EGC 451) Direct Energy Conversion Engineering 2. W.
Credits: 3; Prereq: EGC 450. Coreq.: EGC 452.
Photovoltaic, fuel cell, and magnetohydrodynamic direct conversion systems.

EGN 4732 L (EGC 452) Direct Energy Conversion Engineering Laboratory. W.
Credits: 1 to 3; Prereq: EGC 450 and instructor permission. Coreq.: EGC 451
A creative project laboratory. Experimental studies of DEC devices and systems. Familiarization with a sampling of DEC devices and systems.

EGN 4735 (EGC 455) Solar-Electric Engineering. W.
Credits: 3; Prereq: Senior Status in Engineering.
Theory and applications of generating electric energy from the sun including thermal, direct, wind, sea, biological methods. Small and large solar-electric systems and energy storage.

GRADUATE COURSES

EGM 5816 (EGC 541) Intermediate Fluid Dynamics.
Credits: 3

EGM 6811 (EGC 601) Theory of Fluid Flow 1.
Credits: 4

EGM 6812 (EGC 602) Theory of Fluid Flow 2.
Credits: 3

EGM 6813 (EGC 603) Theory of Fluid Flow 3.
Credits: 4

EGM 6835 (EGC 604) Boundary Layer Theory.
Credits: 4

EGM 6845 (EGC 605) Theories of Turbulent Flows.
Credits: 4

EGN 6740 (EGC 621) Surface Hydrology.
Credits: 4

EGN 6741 (EGC 622) Operational Hydrology 1.
Credits: 4

EGN 6742 (EGC 623) Operational Hydrology 2.
Credits: 4

EGM 6321 (EGC 633) Principles of Engineering Analysis 1.
Credits: 3

EGM 6322 (EGC 634) Principles of Engineering Analysis 2.
Credits: 3

EGM 6323 (EGC 635) Principles of Engineering Analysis 3.
Credits: 3

EGM 6324 (EGC 636) Principles of Engineering Analysis 4.
Credits: 3

EGM 6325 (EGC 637) Principles of Engineering Analysis 5.
Credits: 3

EGM 6250 (EGC 640) Theoretical Acoustics. W.
Credits: 3

EEL 6451 (EGC 671) Introduction to Plasmas.
Credits: 3

EEL 6452 (EGC 672) Plasma Theory.
Credits: 4

EEL 6452 L (EGC 675) Plasma Laboratory.
Credits: 3

EEL 6447 L (EGC 677) Gas Lasers and Their Engineering Application.
Credits: 4

ENGINEERING GRAPHICS
College of Engineering

INSTRUCTIONAL STAFF 1976-77
Gaither, R.B.; Chairman; Klement, F.W.; Smith, J.H.; Watts, E.H.

EGN 1110 C (EGR 183) Elementary Engineering Graphics 1. F, W. S, SS.
Credits: 2
Representation and analysis of systems in orthographic projection. Engineering drawing as a descriptive tool.

EGN 1111 C (EGR 193) Engineering Graphics. F, W, S, SS.
Credits: 3
This three hour course is identical to the 2 hour EGR 183, plus the one hour EGR 195.

EGN 1126 (EGR 194) Design Processes in Engineering. F, W, S, SS.
Credits: 2; Prereq: A basic engineering graphics course.
Introductory design projects, and graphical solutions of engineering problems.

EGN 1130 (EGR 195) Descriptive Geometry. F, W, S.
Credits: 1; Prereq.: EGR 183 or equivalent training in mechanical drawing.
True length of lines; true shape of planes; true angles; revolution; intersections; developments.

EGN 1123 (EGR 196) Professional Drafting. F, S.
Credits: 2; Prereq: EGR 193.
Professional topics in drafting. Emphasis on developing drafting as a professional skill.

EGN 4114 (EGR 421) Engineering Graphical Analysis. W.
Credits: 3; Prereq.: MS 304, ESM 301, and departmental graphics requirement.
The use of graphics in analytical design, graphical methods in the solution of specialized problems including structural analysis, machine dynamics and synthesis.

ENGINEERING SCIENCE AND MECHANICS
College of Engineering

INSTRUCTIONAL STAFF 1976-77
Millsaps, Knox, Chairman; Anderson, R.C.; Boykin, W.H., Jr.; Chiu, T.-Y.; Clarkson, M.H.; Cristescu, N.; Doddington, H.W.; Ebcioglu, I.K.; Edson, C.G.; Eisenberg, M.A.; Fearn, R.L.; Green, A.E.S.,; Grinter, L.E.; Hammack, J.L., Jr.; Hartley, C.S.; Hemp, G.W.; Hoover, J.W.; Kalman, R.E.; Keefer, D.R.; Kurzweg; U.H.; Latif, M.A.; Leadon, B.M.; Lindgren, E.R.; Lu, S.Y.; Malvern, L.E.; Mehta, A.J.; Milton, J.E.; Nevill, G.E., Jr.; Partheniades, E.; Purpura, J.A.; Ross, C.A.; Shemdin, O.H.; Sheppard, D.M.; Sierakowski, R.L.; Unluata, U.A.; Walsh, E.K.; Wang, Y.H.; Williams, D.T.

BCN 2400 (ESM 241) Construction Mechanics 1. F, W, S, SS.
Credits: 5; Prereq: MS 201, PS 201.
The study of external forces, truss analysis and geometric properties of members as applied to the design of structures. Primarily for building construction majors.

EGM 3511 (ESM 301) Engineering Mechanics-Statics. F, W, S.
Credits: 3 to 5; Prereq: PS 215, MS 303.
Reduction of force systems. Equilibrium of particles and rigid bodies. Vector methods. Application to structures and mechanisms. Topics in dynamics and mechanics of materials with 5 hours registration.

EGM 3400 (ESM 302) Engineering Mechanics-Dynamics. F, W, S, SS.
Credits: 3 to 5; Prereq.: ESM 301, MS 304.
Dynamics of particles and rigid bodies for rectilinear translation, curvilinear motion, rotation and plane motion. Principles of work and energy, also impulse and momentum. Topics in mechanics of materials with 5 hours registration.

EGM 3520 (ESM 303) Mechanics of Materials. W, S, SS.
Credits: 3 to 4; Prereq.: ESM 301, MS 304.
Stress and strain at a point, stress-strain relations. Systems subject to axial load, torsion, and bending. Design concepts, indeterminate structures, applications.

EGM 3311 (ESM 330) Introduction to Engineering Analysis. F, W, S, SS.
Credits: 3; Coreq: MS 304.
Formulation of mathematical models of physical systems resulting in ordinary differential equations. Solution methods for linear and nonlinear ordinary differential equations with constant coefficients. Laplace transform techniques. Emphasis on applications.

BCN 3401 (ESM 342) Construction Mechanics 2. F, W, S, SS.
Credits: 5; Prereq: MS 201, PS 201, ESM 241.
The study of stresses and strains and external forces on indeterminate members as applied to the design of structures. Primarily for BCN majors.

EGM 4000 (ESM 401) Engineeering Design 1. W.
Credits: 4; Prereq.: Permission of instructor.
Emphasis on overall design and analysis of complex engineering systems. Materials, structural, chemical, control, nuclear, mechanical, electrical, and operational problems; cost analysis.

EGM 4001 (ESM 402) Engineering Design 2. S.
Credits: 4; Prereq.: ESM 401.
Continuation of ESM 401.

EGM 4910 L (ESM 411) Laboratory Projects. F, W, S, SS.
Credits: 3; Prereq.: Any one of ASE 404, CHE 344, ESM 311 or ME 362.
Experimental analysis of individually selected laboratory or field projects in concurrence with lectures on the principles of scientific research.

EGM 4200 (ESM 420) Fundamental Vibration Analysis. W, SS.
Credits: 4; Prereq.: ESM 302 and ESM 303.
Undamped free and forced vibrations of systems on one degree of freedom, damped vibrations. Vibrations of systems with more than one degree of freedom. Shock and vibration isolation. Instruments for vibration analysis.

EGM 4312 (ESM 431) Engineering Analysis 1. F, W.
Credits: 4; Prereq.: ESM 330 or MS 305.
Application of vector algebra and calculus, and complex variables to solid and fluid mechanics, electromagnetism, and heat and mass transfer. Introduction to conformal mapping.

EGM 4313 (ESM 432) Engineering Analysis 2. W, S.
Credits: 4; Prereq.: ESM 330 or MS 305, PS 217.
Formulation of mathematical models of physical systems resulting in systems of ordinary differential equations. Problems resulting in equations with variable coefficients. Matrix and series solution techniques with emphasis on applications.

EGM 4314 (ESM 433) Engineering Analysis 3. F, S.
Credits: 4; Prereq.: ESM 432.
Formulation of mathematical models of physical systems resulting in partial differential equations. Solution methods including separation of variables, exponential techniques, and Fourier series. Application to boundary value problems in heat conduction, diffusion, fluid mechanics and wave propagation.

EGM 4008 (ESM 440) Introduction to Engineering Optics. F.
Credits: 4; Prereq.: PS 217.
Definition of the optical system. Calculation of radiometric quantities. Line and gray body sources. Atmospheric transmission. Selected topics in optics. Calculation of radiant flux through an optical system.

EGM 4009 (ESM 441) Engineering Optics. W.
Credits: 4; Prereq.: ESM 440.
Optical modulation. Detectors, their selection and use. Noise. Signal processing. Design and analysis of an optical system.

EGM 4560 (ESM 460) Mechanical Properties of Materials. S.
Credits: 3; Prereq.: ESM 303.
Introduction to the science of engineering materials. Application of solid state mechanics to mechanical properties of materials including elasticity, plasticity, fracture, creep and relaxation.

EGM 4906 (ESM 496) Individual Study in Engineering Science and Mechanics. F, W, S, SS.
Credits: 1 to 6. May be repeated to a maximum of 12 credits. Prereq: Recommendation of Department Chairman.
Selected problems or projects in the student's major field of engineering study.

EGM 4901 (ESM 498) Special Topics in Engineering Science and Mechanics. F, W, S, SS.
Credits: 1 to 6. Prereq: Permission of instructor.
May be repeated with change in content to a maximum of 12 credits.

EGM 4941 (ESM 499) Co-op Work Experience. F, W, S, SS.
Credits: 1 to 5; Prereq.: 4EG Classification.
One term industrial employment, including extra work according to a pre-approved outline. Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

GRADUATE COURSES

EGM 5005 (ESM 510) Laser Principles and Applications. W.
Credits: 4

EGM 5421 (ESM 527) Modern Techniques of Structural Dynamics 1. S.
Credits: 3

EGM 5533 (ESM 533) Advanced Mechanics of Solids and Structures. S.
Credits: 3

EGM 5550 (ESM 534) Elevated Temperature Stress Analysis F.
Credits: 3

EGM 5430 (ESM 536) Intermediate Dynamics F.
Credits: 3

EGM 5111 L (ESM 549) Experimental Stress Analysis 1. W.
Credits: 3

EGM 5905 (ESM 596) Individual Study. F, W, S, SS.
Credits: 1 to 9; Maximum of 9 credits.

EGM 6611 (ESM 601) Continuum Mechanics 1.
Credits: 3

EGM 6612 (ESM 602) Continuum Mechanics 2
Credits: 3

EGM 6613 (ESM 603) Advanced Continuum Mechanics.
Credits: 3

EGM 6584 (ESM 605) Principles of Mechanics in Biomedical Engineering.
Credits: 3

EGM 6215 (ESM 621) Theory of Structural Vibrations 1.
Credits: 4

EGM 6225 (ESM 622) Theory of Structural Vibrations 2.
Credits: 4

EGM 6235 (ESM 623) Nonlinear Vibrations 1.
Credits: 4

EGM 6236 (ESM 624) Nonlinear Vibrations 2.
Credits: 3

EGM 6245 (ESM 625) Random Vibrations.
Credits: 3

EGM 6422 (ESM 628) Modern Techniques of Structural Dynamics.
Credits: 3

EGM 6717 (ESM 635) Introduction to Plates and Shells.
Credits: 3

EGM 6341 (ESM 636) Numerical Methods of Engineering Analysis 1.
Credits: 3

EGM 6342 (ESM 637) Numerical Methods of Engineering Analysis 2.
Credits: 3

EGM 6351 (ESM 638) Introduction to Finite Element Methods.
Credits: 4

EGM 6444 (ESM 644) Advanced Dynamics 1.
Credits: 3

EGM 6445 (ESM 645) Advanced Dynamics 2.
Credits: 3

EGM 6460 (ESM 646) Stability of Dynamical Systems.
Credits: 3

EGM 6652 (ESM 652) Introduction to Elasticity.
Credits: 3

EGM 6653 (ESM 653) Theory of Elasticity 1.
Credits: 3

EGM 6654 (ESM 654) Theory of Elasticity 2.
Credits: 3

EGM 6551 (ESM 655) Introduction to Theory of Thermal Stresses.
Credits: 3

EGM 6736 (ESM 667) Theory of Elastic Stability.
Credits: 4

EGM 6670 (ESM 670) Introduction to Inelastic Behavior of Materials.
Credits: 3

EGM 6671 (ESM 671) Theory of Inelastic Continuum.
Credits: 3

EGM 6716 (ESM 673) Theory of Plates.
Credits: 3

EGM 6726 (ESM 674) Theory of Shells.
Credits: 3

EGM 6718 (ESM 675) Methods of Analysis for Plates and Shells.
Credits: 3

EGM 6476 (ESM 676) Inertial Guidance and Control.
Credits: 3

EGM 6478 (ESM 679) Nonlinear Control Systems.
Credits: 3

EGM 6682 (ESM 682) Theory of Viscoelasticity.
Credits: 3

EGM 6683 (ESM 683) Dynamic Plasticity.
Credits: 3

EGM 6684 (ESM 684) Special Topics in Dynamic Plasticity.
Credits: 1 to 4

EGM 6936 (ESM 690) Graduate Seminar.
Credits: 1††

EGM 6934 (ESM 692) Special Topics in Engineering Mechanics.
Credits: 1 to 9.

EGM 6905 (ESM 696) Individual Study.
Credits: 1 to 9

EGM 6913 (ESM 697) Supervised Research.
Credits: 1 to 5††

EGM 6942 (ESM 698) Supervised Teaching.
Credits: 1 to 5††

EGM 6971 (ESM 699) Master's Research.
Credits: 1 to 15††

EGM 7919 (ESM 799) Doctoral Research.
Credits: 1 to 15††

Coastal and Oceanographic Engineering

OCE 4016 (COE 400) Introduction to Coastal and Oceanographic Environment. F, S.
Credits: 4
Important marine and coastal process including relevant atmospheric and hydrological aspects. Introduction to oceanography and geophysical fluid motions; waves; tides; air-sea interaction; pollutant transport; littoral processes.

OCP 4290 (COE 410) Coastal Hydraulics. W.
Credits: 3; Prereq.: COE 400 or consent of instructor.
Applications of fluid mechanics in the coastal zone. Inlet dynamics; surface and internal waves; sediment transport and deposition; laboratory techniques and measurements.

GRADUATE COURSES

EOC 5860 (COE 550) Harbor Engineering.
Credits: 4°

EOC 5001 (COE 560) Ocean Engineering
Credits: 4°

OCP 6165 (COE 610) Ocean Waves 1: Linear Theory.
Credits: 4

OCP 6167 (COE 611) Ocean Waves 2: Nonlinear Theory.
Credits: 4

OCP 6169 (COE 612) Ocean Wave Spectra.
Credits: 4

OCP 6295 (COE 613) Estuarial Hydromechanics and Engineering 1.
Credits: 4

OCP 6296 (COE 614) Estuarial Hydromechanics and Engineering 2.
Credits: 4

OCP 6297 (COE 615) Estuarial Hydromechanics and Engineering 3.
Credits: 4

††Grading is on a S-U basis only.

EOC 6430 (COE 620) Coastal Structures 1: Theory.
Credits: 4

EOC 6431 (COE 621) Coastal Structures 2: Applications.
Credits: 4

EOC 6196 (COE 630) Littoral Processes.
Credits: 4

EOC 6850 (COE 631) Simulation Techniques.
Credits: 4

EOC 6934 (COE 632) Selected Field and Laboratory Problems.
Credits: 3 to 8

OCP 6056 (COE 640) Physical Oceanography.
Credits: 4

OCP 6555 (COE 641) Air-Sea Interaction 1: Microscale.
Credits: 4

OCP 6556 (COE 642) Air-Sea Interaction 2: Macroscale.
Credits: 4

EOC 6934 (COE 643) Advanced Topics in Coastal and Oceanographic Engineering.
Credits: 1 to 6

EOC 6939 (COE 691) Graduate Coastal Engineering Seminar.
Credits: 1††; Maximum of 12.

EOC 6908 (COE 696) Individual Study in Coastal and Oceanographic Engineering.
Credits: 1 to 9.

EOC 6910 (COE 697) Supervised Research.
Credits: 1 to 5††

EOC 6943 (COE 698) Supervised Teaching.
Credits: 1 to 5††

EOC 6971 (COE 699) Master's Research.
Credits: 1 to 15††

ENGINEERING TECHNOLOGY
College of Engineering

INSTRUCTIONAL STAFF 1976-77
Land Surveying Technology—Gibson, D.W.
Materials Technology—Connell, R.G.

ETI 3411 C (ENT 320) Machine Shop 1. F, W, S, SS.
Credits: 1
Shop safety, tool sharpening, measurements, cutting tool theory, reamers and threads, use of shapers and lathes.

ETI 3412 C (ENT 321) Machine Shop 2. W, S, SS, F.
Credits: 1; Prereq: ENT 320
Use of hand tools, cleaning and surface treatment, use of milling machines, drills, power saws and grinders.

ETC 3334 (ENT 351) Land Surveying Principles. F, W.
Credits: 4; Prereq.: CE 300
Land boundaries, corners, areas; writing land descriptions, identification of land parcels; legal principles of boundary location, the government land survey system.

ETC 3334 L (ENT 352) Land Surveying Practice. S, SS.
Credits: 3; Prereq.: ENT 351.
A study of land survey practice; the lot survey, the sectional survey, the water boundary survey; office and business practices; professional standing.

ETC 3353 (ENT 353) Control Surveying. W.
Credits: 4; Prereq: CE 300 and MS 306.
Horizontal and vertical control surveys, error theory, precise traverse, triangulation, trilateration, adjustment theory, least squares adjustments.

ETC 3323 C (ENT 354) Engineering Surveying 2. F, W.
Credits: 2; Prereq.: ENT 353.
Location and layout of highways, linear and broad area projects. Curves, spirals, turnouts, superelevation, slope staking.

ETC 3342 L (ENT 355) Geodetic Surveying. S.
Credits: 3; Prereq: ENT 353.
Precise horizontal surveys of large extent; latitudes, longitudes, and azimuth; state plane coordinate systems; celestial observations for latitude and azimuth; geodetic computation; electronic measuring devices.

ETC 3340 L (ENT 356) Topography and Mapping. W, S.
Credits: 2; Prereq: CE 300.
Surveying for mapping, field surveys for topographic maps, manuscript compilation, map reproduction, map projections.

ETC 3331 L (ENT 357) Photogrammetry 1. F.
Credits: 3
Photo interpretation and basic measurements, geometry of vertical photographs, precise photo measurements, stereo plotter operation, air photo interpretation of basic cultural and natural features.

ETC 3344 L (ENT 358) Subdivisions. S, SS.
Credits: 3; Prereq: ENT 452.
Subdivision boundary and lot calculations, manual and computer, plat drafting; legal requirements; planning for lot grades, lot size and lot layout.

ETC 3333 (ENT 380) Land Surveying Computations. F.
Credits: 3; Prereq: MS 102
The principles of geometry applied to land surveying computations; manual and computer techniques; coordinates, areas, volumes, intersections, circular curves, compound and reverse curves; higher geometry and spherical trigonometry.

ETG 3935 (ENT 396) Special Shops and Laboratories in Engineering Technology. F, W, S, SS.
Credits: 1 to 3
New shop courses or laboratories for developing Engineering Technology program. May be repeated up to a total of 10 credits.

ETG 3945 (ENT 399) Supervised Work Experience in Engineering Technology. F, W, S, SS.
Credits: 1 to 5
Practical experience in engineering technology field under planned program. May be repeated up to 15 credits.

EVS 4215 (ENT 452) Hydraulics and Hydrology. F, W.
Credits: 3; Prereq.: ENT 301
Fluids at rest and in motion. Study of dams, pipelines and open channels. Pumps and turbines. Steady flow and dimensional analysis. Hydrologic cycle. Flood routing. Groundwater; flow nets and saltwater intrusion.

ETC 4332 L (ENT 457) Photogrammetry 2. W.
Credits: 2; Prereq: CE 300 and ENT 357
Advanced stereo plotter operation, geometry of tilted photographs, aerotriangulation by strip formation and adjustment.

ETI 4405 (ENT 470) Metals Joining Technology 1. F.
Credits: 3; Prereq: MSE 401, 402, 403.
Laboratory projects in the technology of metal joining including: soldering, welding, brazing, bolting, riveting, adhesive bonding, etc.

ETI 4406 (ENT 471) Metals Joining Technology 2. W.
Credits: 3; Prereq: MSE 401, 402, 403.
Continuation of ENT 470.

ETI 4407 (ENT 472) Metals Joining Technology 3. S.
Credits: 3; Prereq: MSE 401, 402, 403.
Continuation of ENT 471.

ETM 4801 L (ENT 473) Heat Treating of Metal Laboratory. W.
Credits: 2
The technology of heat treating of metals including annealing, hardening of steels and irons, precipitation hardening, etc.

ETM 4804 (ENT 474) Laboratory in Nondestructive Testing Techniques. S.
Credits: 2
The technology of non-destructive testing techniques including: radiography, magnetic particle inspection, ultrasonic inspection, etc.

ETG 4940 (ENT 490) Supervised Internship in Engineering Technology. F, W, S, SS.
Credits: 1 to 5
Practical work in College of Engineering shops or laboratories as part of required curriculum in Engineering Technology. May be repeated up to 15 credits.

ETG 4930 (ENT 496) Individual Work. F, W, S, SS.
Credits: 1 to 6
Special Courses, problems or projects needed to develop program in Engineering Technology. May be repeated up to 12 credits with change in content.

ETG 4943 (ENT 499) Co-op Work Experience. F, W, S, SS.
Credits: 1 to 5
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

ENGLISH
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77
Hellstrom, W., Chairman; Anderson, B.J.; Beirne, R.M.; Beyette, T.K. ; Bigelow, G.E.; Bloodworth, B.E.; Bradshaw, J.P.; Brantley, R.E.; Bredahl, A.C.; Byron, K.H.; Carnell, C.S.; Cech, J; Childers, W.C.; Clark, I.G.; Cranney, A.G.; Crews, H.E.; Deakin, M.F.; Duckworth, A.M.; Foreman, R.C.; Frazer, W.L.; Fry, N.J.; Gale, S.H.; Gehan, F.E.; Gordon, A.M.; Green, R.H.; Herbert, T.W.; Hetrick. L.A.; Hill, M.A.; Hodges, J.R.; Holden, E.S.; Homan, S.R.; Kelly, D.L.; Kendall, K.E.; Kershner, R.B.; Kirkpatrick, M.S.; Lambert, R.E.; Langford, A.G.; Larsen, J.S.; Lisca, P.; Long, S.G.; Losano, W.A.; McCarthy, K.M.; McCrea, B.R.; Mooney, M.E.; Moss, H.G.; Murphree, A.A.; Neale, J.R.; Nelson, M.D.; New, M.; Nims, J.F.; Penrod, J.A.; Perlette, J.M.; Pickard, J.B.; Robinson, W.R.; Sciadini, F.; Shaw, H.B.; Snodgrass, S.G.; Snyder, W.S.; Straus, B.R.; Taylor, F.; Thompson, I.S.; Thompson, R.M.; Thomson, R.S.; Tillman, C.A.; Twitchell, J.B.; Ulmer, G.L.; Vogel, J.F.; Waldo, T.R.; Watson, V.S.; Wear, R.A.; Williams, A.L.; Wyrick, J.C.; Yerkobich, S.M.

Beginning students are normally expected to complete EH 111 and two additional courses from among EH 112, EH 121, 122, 123 and 124, which are designed for Freshmen. Qualified students, however, may substitute more advanced courses with the approval of a Departmental Adviser.

The freshman English requirement may also be satisfied by the CLEP examination. Credit acquired through CLEP examination represents an attainment of a minimum knowledge of the subject as designated and mandated by state interinstitutional agreement. *Credit so earned must be acquired before enrollment at the University of Florida.*

Students in the lower division who intend to major in English should consult as soon as possible with a Departmental Adviser in 200 Anderson Hall or 358 Little Hall.

There are two programs which English majors may pursue according to their educational objectives.

1. *The Departmental Major:* The student will take 48 quarter hours of English courses including Freshman English, or the equivalent; 36 of these hours will be in courses numbered 300 and above. Among these 36 hours the student's program will include one course in English literature before 1800; one course in literary theory, criticism, or genres; and one course in the study of language or the practice of writing. *For specific courses see an English adviser.*

2. *The Certification Major:* For those students who wish to be certified to teach in the secondary schools. Minimum requirements are (a) Survey of English Literature, (EH 221-222-223, or 220, 8 hours); (b) Shakespeare (EH 431 or 432, 4 hours); (c) two "period" courses in two different periods (EH 436 or 437, EH 441 or 442, EH 451 or 452, EH 461 or 462, 8 hours); (d) two courses in American Literature, one of which should include contemporary writers, otherwise an additional course in contemporary literature will be required (EH 271-272, EH 309, EH 371, EH 372, EH 471, EH 473, EH 474, 8 hours); (e) two courses in Linguistics, including modern English grammar (EH 304, EH 305, EH 401, EH 402, 8 hours); (f) a course in advanced composition (EH 301, EH 330, EH 391, EH 404, 3 hours.) Total 39 hours; including beginning English or the equivalent hours.

In addition, the student must have (a) two Speech courses: one in the fundamentals of Speech (SCH 201) and a second in, normally, oral interpretation (SCH 224); (b) six courses in Education, including the internship (a total of 39-40 hours, of which only 24 will be counted towards the Arts and Sciences degree). See the appropriate pages in the College of Education section of this catalog.

Honors. To graduate with Departmental Honors, one must earn satisfactory grades ("A" or "B") in at least two terms of EH 485, the Honors Seminar, which may be repeated (total 15 hours); admission to EH 485 requires the recommendation of a departmental adviser. To graduate with High Honors, one must take either EH 485 (10 hrs.) or ASC 487 (12 hrs.), or both. For College and High Honors, see statement under COLLEGE OF ARTS AND SCIENCES: HONORS PROGRAMS.

ENC 1102 (EH 111) Expository Writing. F, W, S, SS.
Credits: 3
An introduction to the methods of exposition — definition, classification, comparison and contrast, illustration, analysis. EH 111 or its equivalent is required as a prerequisite for all other English courses.

(EH 112) Argumentative and Persuasive Writing. F,W,S,SS.
Credits: 3
An introduction to the methods of argument and persuasion.

ENG 1200 (EH 121) Introduction to Fiction. F, W, S, SS.
Credits: 4
The reading of novels and short stories by classical, modern, and contemporary authors. Five papers will be required.

ENG 1400 (EH 122) Introduction to Drama. F, W, S, SS.
Credits: 4
The reading of drama by classical, modern, and contemporary playwrights. Five papers will be required.

ENG 1710 (EH 123) Introduction to Poetry. F, W, S, SS.
Credits: 4
The reading of poetry by classical, modern, and contemporary poets. Five papers will be required.

ENC 1256 (EH 124) The Rhetoric of Film. W, S.
Credits: 3
A course designed to improve the student's writing through the use of short films to demonstrate rhetorical techniques such as patterns of organization and development, point of view, and other rhetorical devices.

ENL 2130 (EH 200) Introduction to Shakespeare. F, S.
Credits: 4
A course designed to introduce students new to Shakespeare to the pleasure and wisdom of his many plays. Various approaches will be used: movie versions of the plays, actual staging of scenes from the plays, and discussion.

LIS 2001 (EH 201) Use of Books and Libraries. F, W, S.
Credits: 2
Detailed study of the basic and most useful reference books and bibliographic aids. Practice problems in the use of specific titles and in how to find materials in the library.

LIS 2100 (EH 202) History of Books, Printing, and Libraries. W.
Credits: 3
The book, the invention of printing and the place of libraries in the development of western culture.

ENG 2540 (EH 203) English Grammar.
Credits: 2
A course in the basics of English grammar designed as a complement to our composition and creative writing courses, as a review for those students who will take preprofessional exams, and as a basic course for students interested in improving their knowledge of English.

LIT 2212 (EH 214) Introduction to World Literature: Ancient. F, S, SS.
Credits: 3
The first quarter of an introductory course on the backgrounds of English and American letters: a survey of ancient, medieval, and modern literature read in translation.

LIT 2214 (EH 215) Introduction to World Literature: Medieval and Renaissance. F, W, SS.
Credits: 3
Second quarter of the course EH 214-215-216.

LIT 2223 (EH 216) Introduction to World Literature: Modern. W, S, SS.
Credits: 3
Third quarter of the course EH 214-215-216. From the seventeenth century to the twentieth.

ENL 2033 (EH 220) Literature Quarter One: English Literature 1380-1880. F.
Credits: 8
An eight-hour course led by three instructors. The reading list consists primarily of complete works of English literature written between 1380 and 1880 chosen to provide an indication of the range and excellence of English literature and to suggest the development of English style. May be used to satisfy the major requirement of an English literature course before 1800.

ENL 2031 (EH 221) Survey of English Literature. F, S, SS.
Credits: 4
Critical study of major works of Chaucer, Spenser, Shakespeare, and Donne.

ENL 2034 (EH 222) Survey of English Literature. F, W, SS.
Credits: 4
Critical study of the major works of Milton, Dryden, Pope, Swift, and the Romantics.

ENL 2042 (EH 223) Survey of English Literature. F, W, S, SS.
Credits: 4
Critical study of the major works of Tennyson,

Browning, Arnold, Hopkins, Yeats, and more recent British writers.

CRW 2321 (EH 229) Beginning Poetry Writing. F, W, S.
Credits: 3
A course designed to acquaint the student with the fundamentals of poetry writing by exploring the various forms and techniques of poetry writing and their relationship to the practical problems of meaning.

CRW 2221 (EH 230) Beginning Fiction Writing. F, W, S.
Credits: 3
A beginning course in fiction writing designed to acquaint the student with the craft of writing. Original works of fiction by the students will be read and discussed in class.

LIT 2160 (EH 235) Contemporary Reading. W, S, SS.
Credits: 3
The study of contemporary writers such as John Updike, Kurt Vonnegut, Jr., and Vladimir Nabokov.

ESL 2422 (EH 241) English Language and Writing for Foreign Students. F, W, S, SS.
Credits: 2 to 5
A study of language principles with concern for their influence on writing. May be repeated for a maximum of 15 hours. Does not satisfy general education requirements in English.

LIT 2930 (EH 251) Special Topics. F, W, S, SS.
Credits: 4
In these courses each instructor will choose a topic in which he has a special competence and interest. Examples of topics used are science fiction, utopian literature. The topics will be announced by the department when offered.

AML 2020 (EH 271) Survey of American Literature: From the Beginnings through Whitman. F, W, SS.
Credits: 4
Critical study of masterpieces embodying the the main lines of literary tradition in the period indicated.

AML 2021 (EH 272) Survey of American Literature: Twain to World War II. W, S, SS.
Credits: 4
Second part of the course EH 271-272.

ENG 2120 (EH 281) Introduction to the Film, F, W, S, SS.
Credits: 4
A study of the film as an artistic medium. Emphasis will be placed upon film elements, such as a camera movement and editing, and their importance to the total artistry of the film. Written assignments will include film reviews and critiques.

ENG 2932 (EH 291-292-293) English: College Honors. F, W, S.
Credits: 3 each
Enrollment by invitation. The critical reading of various kinds of literature. In EH 291 the genres of tragedy, comedy, and satire will be studied. In EH 292 literature will be examined in relation to other disciplines such as history, psychology, anthropology, etc. In EH 293 selected topics of contemporary interest will be selected by each instructor in consultation with his students. Textual materials are chosen to match the abilities of Honors students. The students are encouraged to show originality, invention, and responsibility in speaking and writing, in leading discussions, in investigating, interpreting, reporting, and defending their findings.

ENC 3464 (EH 301) Advanced Exposition. F, W, S, SS.
Credits: 3
An advanced composition course in the methods of exposition: the writing of definition, classification, comparison and contrast, analysis, illustration, identification.

ENC 3343 (EH 302) Basic Technical Writing. F, W, S.
Credits: 3; Prereq.: Junior standing.
Effective presentation of technical and semi-technical information.

ENC 3351 (EH 303) Business Communications. F, W, S, SS.
Credits: 4
Intensive instruction and practice on the organization, content, and style of business letters of all kinds.

ENG 3500 (EH 304) Introduction to English Linguistics. F, W, S, SS.
Credits: 4
A survey of modern linguistics and the English language, its structure and development.

ENG 3551 (EH 305) Modern English Structure. F, W, S, SS.
Credits: 4
A study of the grammar of current English from the viewpoint of modern linguistics.

AML 3113 (EH 309) American Literature Since World War II. W, S, SS.
Credits: 4
A study of American poetry, fiction, and drama since 1940.

ENL 3451 (EH 310) British Literature Since World War II. F, S, SS.
Credits: 4
Poetry, fiction, and drama.

ENG 3462 (EH 311) Modern Drama Early. F.
Credits: 3
A study of the drama from Ibsen through O'Neill. Representative selections from Continental, British, and American playwrights.

ENG 3463 (EH 312) Modern Drama: Later. W, S, SS.
Credits: 3
A study of the drama from Pirandello to the present.

LIT 3162 (EH 314) Metaphysics of Modern Literature. S.
Credits: 4
A critical reading of distinctive works of modern literature in the interest of discovering the world-view implied in their dramatic structure. Readings from novels, short stories, and plays.

ENG 3321 (EH 315) The English Novel: 18th Century. F.
Credits: 4
Includes works by Defoe, Richardson, Fielding, Sterne, and Smollett.

ENG 3325 (EH 316) The English Novel: 19th Century. W, S.
Credits: 4
Includes works by such writers as Scott, Austen, Dickens, Thackeray, Eliot, and Hardy.

ENG 3315 (EH 317) The English Novel: 20th Century. F, S, SS.
Credits: 4
Includes works by such writers as Conrad, Lawrence, Joyce, Forster, Huxley, Woolf, Ford, Green, Waugh.

ENG 3203 (EH 321) The Forms of Fiction. F, SS.
Credits: 4
A close reading and critical analysis of representative forms and styles of fiction, with the major objective of improving the student's ability to read the short story and novel with understanding.

ENG 3410 (EH 322) The Forms of Drama. W, SS.
Credits: 4
A close reading and critical study of representative types and elements of drama, with the major objective of improving the student's ability to read the play with understanding.

ENG 3714 (EH 323) The Forms of Poetry. S, SS.
Credits: 4
Literary analysis and criticism of representative forms and styles of English poetry, with the major objective of improving the student's ability to read poetry with understanding.

CRW 3530 (EH 328) Beginning Course in Writing for Younger Readers. F, W, S.
Credits: 3
Student will write original material, selecting from several genres: fiction, poetry, drama, or non-fiction.

CRW 3330 (EH 329) Imaginative Writing: Poetry. F, W, S.
Credits: 3
Guidance in development of original work in poetry. Group discussion, individual conferences.

CRW 3230 (EH 330) Imaginative Writing: Fiction. F, W, S.
Credits: 3
Designed to help the student who desires guidance in developing his capacity for original work. Group discussion, individual conferences, many papers.

LIT 3311 (EH 341) The Bible as Literature. S.
Credits: 4
A literary analys of selections from the Old and New Testaments, with emphasis upon the poetry and narrative elements.

LIT 3321 (EH 345) Ethnic Literature. F, S.
Credits: 4
A study of selected literature representative of various ethnic groups, e.g., American Indian, Negro, Jewish, Spanish American.

LIT 3342 (EH 346) Afro-American Literature. W.
Credits: 4
A study of literature—prose, fiction, drama, poetry, essays — by representative black American authors, with emphasis on the twentieth century.

LIT 3363 (EH 347) Jewish Literature. S.
Credits: 4
Identical with RN 347. A variable content course in aspects of the Jewish literary experience, from the biblical narrative and Talmudic tales to Yiddish literature and the American Jewish novel.

LIT 3411 (EH 348) Women in Literature. F, S.
Credits: 4
A critical and thematic study of women in literature. A variable content course which may include fiction, poetry, or drama; English, American, or World Literature.

ENG 3132 (EH 350) The Movies as Narrative Art. S.
Credits: 4
An examination of the movies as a mode of storytelling, with emphasis upon the difference between verbal and visual narration, and in relation to contemporary thought and values.

ENG 3135 (EH 355) History of the Film, Part 1. W.
Credits: 4
History of the film from silence to sound.

ENG 3136 (EH 356) History of the Film, Part 2. S.
Credits: 4
History of the film from sound to the present.

ENG 3221 (EH 371) American Fiction: Beginnings to 1900. W.
Credits: 4
Includes works by Cooper, Poe, Hawthorne, Melville, Twain, Howells, and James.

ENG 3222 (EH 372) American Fiction: 1900 to World War II. F, W, S, SS.
Credits: 4
Includes works by Crane, Dreiser, Hemingway, Fitzgerald, Faulkner, and Steinbeck.

LIT 3443 (EH 375) Modern Science Fiction. F, W, S.
Credits: 4
An interdisciplinary approach to contemporary trends in science fiction. Writers such as Orwell, Herbert, Delaney, Vonnegut, and Miller are studied.

ENG 3812 (EH 381) The Theory and Practice of Modern Criticism. F, W.
Credits: 4
An intensive study of the idea of art as it has evolved in 20th-century literary criticism and of the application of that idea to specific narrative, poetic, and dramatic texts.

ENC 3532 (EH 391) Argumentative Writing. F, W.
Credits: 3
A course in advanced composition concerned with the writing of argument and critical analysis.

ENG 4511 (EH 401) History of the English Language. F, W, S, SS.
Credits: 4
The origins of the English language and its development from prehistoric times to the present.

LIN 4400 (EH 402) Applied Linguistics. W.
Credits: 4
The application of linguistics to the study of English; a comparison of modern approaches to the study of grammar. With a change in content, may be repeated for credit.

ENC 4356 (EH 403) Report Writing. F, W, S.
Credits: 4; Prereq.: Junior standing.
Instruction and practice in writing reports for practical purposes. Collecting, organizing, and interpreting facts, then writing up findings in report form and style.

ENC 4542 (EH 404) Analysis of Propaganda and Techniques. S.
Credits: 4
A course in composition — the written analysis of propaganda and the study of propagandistic techniques. Students are not taught to write propaganda but to produce written assessments of it.

LIT 4218 (EH 411) Great Books of the Western World. F.
Credits: 4
Many of the great classics which have germinated our culture and moulded modern thought are read, analyzed and discussed. First half of course is concerned with the Classical, Medieval, and Renaissance writers.

LIT 4219 (EH 412) Great Books of the Western World. W.
Credits: 4
Second quarter of the course EH 411-412. Concerned with writers of the modern era.

ENG 4470 (EH 414) World Drama. W, SS.
Credits: 4
World drama from its origins down to the rise of realism, from Aeschylus to Turgenev. First half of course covers the Ancient, Medieval, and early Renaissance periods.

ENG 4471 (EH 415) World Drama. S.
Credits: 4
Second half of the course EH 414-415. Begins with the later Renaissance drama, and continues through the Neoclassic and Romantic periods down to the pre-Ibsen realists.

LIT 4228 (EH 416) Studies in World Literature. F, W, S.
Credits: 4
A variable content course embracing topics such as the lyric, the prose epic, symbolist poetry, the impressionist novel, etc. Will include works from various countries studied in their historical and cultural context.

ENG 4748 (EH 417) Modern English Poetry: Eliot to the Present. W.
Credits: 4
Critical study of such major poets as Eliot, Auden, Thomas, McNeice, Spender, and Lewis.

LIT 4131 (EH 418) Studies in Modern Literature. F, W, S.
Credits: 4
A variable topics course providing a study in depth of an author or a topic such as myth, symbolism, romanticism, or expressionism in modern literature.

ENL 4300 (EH 420) Old English Literature.
Credits: 4
Selections from major genres in translation. Some attention to original language and to variations in translations.

ENL 4111 (EH 421) Chaucer. F, S
Credits: 4
Reading and critical study of the *Canterbury Tales;* Chaucer's English and its place in the development of the language.

ENL 4311 (EH 423) Medieval English Literature. W.
Credits: 4
A survey of representative works of the Old and Middle English periods: *Beowulf, Gawain* and *the Green Knight, Piers Plowman,* and *Morte D'Arthur.*

CRW 4540 (EH 428) Advanced Writing for Younger Readers. F, W, S.
Credits: 4;
Student will write original material, selecting from several genres: fiction, poetry, drama, or non-fiction. Permision of Instructor required. Can be repeated.

CRW 4906 (EH 429) Individual Work in Poetry Writing. F, W, S.
Credits: 4 Prereq.: Permission of the instructor.
Individual projects in creative composition for qualified students interested in the writing of poetry as an art form.

CRW 4905 (EH 430) Individual Work in Fiction Writing. F, W, S.
Credits: 4 Prereq.: Permission of the instructor.
Individual projects in creative composition for qualified students interested in the writing of fiction as an art form.

ENL 4135 (EH 431) Shakespeare: Early Plays. F, W, S, SS.
Credits: 4
Selected plays from the 1590's.

ENL 4136 (EH 432) Shakespeare: Late Plays. F, W, S.
Credits: 4
Selected plays from 1600-1613.

ENL 4331 (EH 436) Renaissance Literature: 16th Century. F.
Credits: 4
Variable topics, 1485-1603, such as Spenser, the rise of English prose, the development of English verse, the age of sonnets, Elizabethan fiction. Consult department for description of offering each quarter.

ENL 4341 (EH 437) Renaissance Literature: 17th Century. W.
Credits: 4
Variable topics, 1603-1700, such as Milton, the revolution in English prose styles, sacred and secular lyrics, the literature of paradox. Consult department for description of offering each quarter.

ENL 4321 (EH 438) Renaissance Studies. S.
Credits: 4
A variable content course in different aspects of the Renaissance such as the major drama from the time of Marlowe to the closing of the theaters in 1642.

ENL 4351 (EH 441) The Age of Dryden and Pope. F.
Credits: 4
Selections from the best works of such writers as Dryden, Congreve, Addison, Swift, and Pope.

ENL 4352 (EH 442) The Age of Johnson. W.
Credits: 4
A study of the best works from Johnson, his circle, the novelists, and the lyric poets.

ENG 4424 (EH 443) Restoration and Eighteen-Century Drama. S.
Credits: 4
Study of the English theater from 1660 to 1800, including such playwrights as Dryden, Etherege, Wycherley, Congreve, Otway, Rowe, Lillo, Goldsmith, Sheridan.

ENL 4403 (EH 451) The Romantic Period Early. F, W, SS.
Credits: 4
Selections from the best works of such writers as Burns, Blake, Wordsworth, Coleridge, Scott, and Lamb.

ENL 4404 (EH 452) The Romantic Period: Later. W, S.
Credits: 4
Selections from the best works of such writers as Byron, Shelley, and Keats.

ENL 4413 (EH 461) Victorian Poetry. F, W, SS.
Credits: 4
Selections from such writers as Tennyson, Browning, Arnold.

ENL 4415 (EH 462) Ideas and Themes in Victorian Literature. F. S.
Credits: 4
Selections from such writers as Carlyle, Newman, Mill, Ruskin, Arnold.

ENG 4745 (EH 471) American Poetry: Nineteenth and Twentieth Century. F, S.
Credits: 4
Critical study of the major American poets since 1880.

AML 4210 (EH 473) Major Figures of American Literature. F, W, S.
Credits: 4
A variable content course which will cover one major figure each quarter. May be repeated once with change of content.

AML 4301 (EH 474) Themes, Genres, and Movements in American Literature. F, W.
Credits: 4
A variable content course. May be repeated once with change of content.

LIT 4371 (EH 480) Anglo-Irish Literature. W.
Credits: 4
Survey of the Irish Renaissance. Selections from Mangan, Moore, "A.E.", Wilde, Shaw, Yeats, Lady Gregory, Synge, Joyce, Stephens, O'Casey, Flann O'Brian.

LIT 4282 (EH 481) Introduction to Folklore. F, W, S.
Credits: 4
Reading, discussion, and critical study of the types of folklore with emphasis on folksong. Some attention to utilization by teachers and creative artists.

LIT 4284 (EH 482) The Folktale. W, SS.
Credits: 4
Reading folktales, a study of their types and characteristics, some attention to critical and scholarly study, and utilization of folktales by teachers and creative artists.

ENG 4105 (EH 484) Studies in Literary Genres. F, W, S.
Credits: 4
A variable topics course providing a study in depth of a particular literary genre such as the epic, satire, burlesque, etc.

ENG 4936 (EH 485) Honors Seminar. F, W, S, SS.
Credits: 5; Prereq.: Recommendation by a departmental adviser.
Open to selected English majors. Intensive study by the seminar method of a limited topic in English and American literature. To obtain Departmental Honors (and possibly High Honors) EH 485 should be taken at least twice during one's Junior and Senior years. May be repeated (max. 15 hrs.).

LIT 4930 (EH 489) Variable Topics in Literature and Language. F, W, S, SS.
Credits: 2 to 5
Proseminar of variable content providing an opportunity for the study in depth of various topics or subjects such as the literature of war and peace, literary definitions of death, courtly love. May be repeated with change of content up to a maximum of 10 credits.

LAE 4414 (EH 490) Literature for Young Children.
Credits: 4
An exploration of kinds and qualities of literature for the younger child, examining the child's first experience with literature in oral forms, then moving on to picture and story books and poetry.

ENG 4161 (EH 491) Children's Literature. F, W, S, SS.
Credits: 4
Designed to arouse a genuine interest in children's books and to aid the student in obtaining a critical knowledge of the literature.

ENG 4165 (EH 492) Literature for the Adolescent. F, W, S.
Credits: 4
A study of the types of literature read by adolescents, with emphasis upon the criteria for the choice of good books and upon developing a familiarity with the many books available.

LAE 4235 (EH 494) English in the Secondary School. F, W, S, SS.
Credits: 4; (Ident. with EDS 494).
Designed to help prepare teachers by a study of the content, materials, methods, and objectives of the secondary English program.

ENG 4128 (EH 495) Film Studies. W, S.
Credits: 4
A course of variable content providing an opportunity for the study in depth of film genres, notable film directors, and other significant topics or subjects related to film. May be repeated with a change in topic up to a maximum of 12 credits.

ENG 4906 (EH 496) Independent Study. F, W, S, SS.
Credits: 1 to 5; Prereq.: Permission of the instructor and of the department head or his delegate.
For advanced students who desire to supplement the regular courses by independent reading or research under guidance. May be repeated with change of topic up to a maximum of 12 credits.

GRADUATE COURSES

Courses offered through the Program in Linguistics with the prefix LIN may also be used as part of a graduate program in English.

ENG 5934 (EH 596) Special Study in English.
Credits: 1 to 5

ENG 6063 (EH 600) Bibliography and Methods of Research.
Credits: 4

LAE 6947 (EH 607) Practicum in the Teaching of College English.
Credits: 4

††Grading is on a S-U basis only.

ENG 6143 (EH 613) The Language of Film.
Credits: 4

ENG 6154 (EH 614) Communications and Popular Culture.
Credits: 4

LAE 6379 (EH 615) Teaching of Business and Technical Writing.
Credits: 4

RED 6380 (EH 616) Principles Community College and Adult Reading Instruction I.
Credits: 4

RED 6480 (EH 617) Laboratory in Community College and Adult Reading Instruction II.
Credits: 4

LIN 6417 (EH 618) Linguistics in the Community College.
Credits: 4

ENG 6595 (EH 619) Studies in English Linguistics.
Credits: 4

ENL 6304 (EH 620) Studies in Old English.
Credits: 4

ENL 6314 (EH 626) Studies in Middle English
Credits: 4

ENL 6323 (EH 630) Studies in Renaissance Literature.
Credits: 4

ENL 6143 (EH 633) Studies in Shakespeare.
Credits: 4

ENL 6394 (EH 640) Studies in Restoration and 18th Century Literature.
Credits: 4

ENL 6425 (EH 646) Studies in 19th Century British Literature.
Credits: 4

ENL 6447 (EH 650) Studies in 20th Century British Literature
Credits: 4

AML 6341 (EH 655) Studies in American Literature Before 1900.
Credits: 4

AML 6342 (EH 660) Studies in 20th Century American Literature.
Credits: 4

LIT 6373 (EH 665) Studies in Irish Literature.
Credits: 4

ENG 6839 (EH 666) Studies in Literary Criticism.
Credits: 4

LIT 6283 (EH 670) Studies in Folklore.
Credits: 4

ENG 6144 (EH 675) Studies in the Movies.
Credits: 4

ENG 6217 (EH 677) Studies in Fiction.
Credits: 4

ENG 6755 (EH 678) Studies in Verse.
Credits: 4

ENG 6437 (EH 679) Studies in Drama.
Credits: 4

ENG 6718 (EH 684) Prosody.
Credits: 4

LIT 6934 (EH 687) Variable Topics.
Credits: 1 to 5

CRW 6250 (EH 690) Fiction Writing.
Credits: 4

CRW 6350 (EH 691) Verse Writing.
Credits: 4

CRW 6550 (EH 692) The Writing of Children's Literature.
Credits: 4

ENG 6908 (EH 696) Individual Work.
Credits: 1 to 4

ENG 6917 (EH 697) Supervised Research.
Credits: 1 to 15††

LAE 6948 (EH 698) Supervised Teaching.
Credits: 1 to 5††

ENG 6974 (EH 699) Master's Research.
Credits: 1 to 15††

ENG 7066 (EH 700) Seminar in Bibliography.
Credits: 4

LIN 7938 (EH 705) Seminar in Linguistics.
Credits: 4

ENL 7317 (EH 720) Seminar in Medieval Literature.
Credits: 4

ENL 7326 (EH 730) Seminar in Renaissance Literature.
Credits: 4

ENL 7149 (EH 735) Seminar in Shakespeare.
Credits: 4

ENL 7393 (EH 740) Seminar in Restoration and 18th Century Literature.
Credits: 4

ENL 7427 (EH 745) Seminar in 19th Century British Literature.
Credits: 4

ENL 7448 (EH 750) Seminar in 20th Century British Literature.
Credits: 4

AML 7191 (EH 755) Seminar in American Literature Before 1900.
Credits: 4

AML 7192 (EH 760) Seminar in 20th Century American Literature.
Credits: 4

LIT 7289 (EH 770) Seminar in Folklore.
Credits: 4

ENG 7147 (EH 775) Seminar in the Movies.
Credits: 4

ENG 7119 (EH 780) Seminar in Genres.
Credits: 4

ENG 7938 (EH 790) Seminar in Variable Topics.
Credits: 1 to 5.

ENG 7918 (EH 799) Doctoral Research.
Credits: 1 to 15††

ENTOMOLOGY AND NEMATOLOGY

INSTRUCTIONAL STAFF 1976-77

Maxwell, F.G., Chairman; Allen, G.E.; Butler, J.R.; Cromroy, H.L.; Habeck, D.H.; Hall, D.W.; Johnson, F.A.; Kerr, S.H.; Koehler, P.; LaBrecque, G.C.; Lloyd, J.L.; Matheny, E.L. Jr; Minnick, D.R.; Murphey, M.; Nation, J.L; Oberlander, H.; Poe, S.L.; Robinson, F.A.; Sailer, R.I.; Short, D.E.; Smart, G.C. Jr.; Tarjan, A.C.; Walker, T.J.; Westfall, M.J. Jr.; Whitcomb, W.H.; Wilkinson, R.C. Jr.; Wiseman, B.R.

ENY 3003 (EY 300) Insect Natural History. W, SS.
Credits: 3
Primarily concerned with insects in their natural environment. This course is designed for non-science majors.

ENY 3005 (EY 301) Principles of Entomology. F, W, S, SS.
Credits: 3 Required Coreq: 31 series. Laboratory Course.
An introduction to Entomology including structure, development, classification and habits.

Various approaches to insect control are explored.

ENY 3701 C (EY 303) Principles of Nematology. F, SS.
Credits: 4; Prereq.: ZY 201.
An introduction to Nematology including studies of morphology, life histories, and control of the major nematode parasites of plants. Also, studies of the bionomics of certain soil nematodes and nematode parasites of vertebrates and arthropods.

ENY 3006 L (EY 311) Principles of Entomology Laboratory. F, W, S, SS.
Credits: 2; Prereq. or Coreq: EY 301.
A laboratory study of insect structure, classification, behavior and control.

ENY 3531 (EY 312) Animal Insects.
Credits: 2; Prereq. or Coreq: EY 301
A laboratory oriented study of the identification, importance , life histories and control of the important insect pests of domesticated animals.

ENY 3511 (EY 313) Fruit Insects. S, SS.
Credits: 2; Prereq. or Coreq: EY 301
A laboratory oriented study of the identification, injury, life history and control of citrus and other fruit and nut insect pests.

ENY 3521 (EY 315) Field Crop Insects. S.
Credits: 2; Prereq. or Coreq: EY 301
A laboratory oriented study of the identification, injury, life history and control of important Florida field crop insect pests.

ENY 3551 (EY 316) Household Insects. W, SS.
Credits: 2; Prereq. or Coreq: EY 301
A laboratory oriented study of the major insect pets encountered in households and structures including their life histories and control.

ENY 3515 (EY 317) Ornamental and Turf Insects. F, S.
Credits: 2; Prereq. or Coreq: EY 301
A laboratory oriented study of the identification, injury, life histories and cotrol of the important pests of ornamental plants and turf.

ENY 3513 (EY 319) Vegetable Insects. S.
Credits: 2; Prereq. or Coreq: EY 301
A laboratory oriented study of the identification, injury life histories and control of the important pests of Florida vegetable crops.

ENY 3004 (EY 328) General Entomology. W.
Credits: 4; Prereq: ZY 201, 202 or equivalent.
General insect biology emphasizing evolutionary aspects of morphology, ecology and behavior. Laboratory directed at field identification of insects, their relatives, their activities and products. Independent study, discussion groups, field trips, visual aids.

ENY 3931 (EY 331.) Undergraduate Seminar. F, S.
Credits: 1††
Preparation and presentation of papers on approved subjects in Entomology and Nematology. May be repeated to a maximum of 3 credits.

ENY 3541 (EY 351) Forest Insects. S.
Credits: 2; Prereq. or Coreq: EY 301.
A laboratory oriented study of the identification, injury, life history and control of important forest and shade tree insect pests.

ENY 4941 (EY 400) Full Time Practical Work Experience in Entomology and Nemalology. F, W, S, SS.
Credits: 1 to 4; S-U Grade only. Prereq.: Prior arrangement with adviser and approval of Department Chairman and Dean.
Practical work must be a new experience and related to the field of study.

ENV 4221 (EY 406) Principles of Insect Control. S.
Credits: 5; Prereq.: EY 301.
Designed for all students in agriculture. Descriptions, uses, and limitations of strategies and tools for insect control. Insecticides, growth regulators, chemicals affecting behavior, sterilization, biological control, physical control, cultural control; the pest management concept.

ENY 4353 (EY 410) Insect Physiology and Morphology. F, W.
Credits: 5; Prereq.: EY 301, 318 or equivalent BTY 370 or equivalent.
The external and internal morphology of insects and the physiology of cells, tissues, organs and systems.

ENY 4571 C (EY 411) Apiculture. S.
Credits: 3; Prereq: EY 301 or EY 318 or permission of the instructor.
The organization of a bee colony, life processes, races of bees, manipulation, value of colonies, nectar and pollen sources, pollination value, diseases, selection of apiary sites, economic importance of the industry, equipment and marketing of products.

ENY 4201 (EY 412) Insect Ecology, Behavior, and Systematics. F., S.
Credits: 5; Prereq.: EY 301, 328 or equivalent.
The environmental relations of insects including their interactions with plants, animals and the physical environment; basic concepts in evolutionary ecology, the adaptiveness of insect behavior, and the essentials of taxonomy, nomenclature and curatorieal procedures.

ENY 4660 C (EY 420) Medical & Veterinary Entomology. W.
Credits: 4; Prereq.: EY 301 or EY 328 or permission of instructor.
Arthropods parasitic upon man and animals, their bionomics, classification, distribution, disease relationship, structure, and control of arthropods affecting man and domestic animals. Also recommended for students in Environmental Engineering, Parasitology and Medicine.

ENY 4161 (EY 460) Insect Identification.W. S.
Credits: 5; Prereq: EY 301 or EY 328 or equivalent.
Identification of immature and adult insects of all major families.

ENY 4791 (EY 496) Problems in Entomology, F, W, S, SS.
Credits: 1 to 5; Prereq: EY 301 or EY 328 and the basic course in selected field of specialization.
Problems in any field of specialization in Entomology and Nematology. May be repeated for a total of 5 credits. control techniques.

GRADUATE COURSES

ENY 5561 (EY 518) Tropical Entomology. F.
Credits: 4; Prereq: EY 301 or EY 328 or equivalent.

ENY 5781 (EY 522) Tropical Nematology. W.
Credits: 5; (Ident with PT 522). Prereq: EY 303 or equivalent.

ENY 6810 (EY 601) Information Techniques in Entomology. S.
Credits: 1

ENY 6151 (EY 606) Insect Systematics. SS.
Credits: 5

ENY 6321 (EY 608) Comparative Anatomy of the Hexapoda. F.
Credits: 5

ENY 6932 (EY 611) Special Topics in Enlomology and Nematology. F, W, S, SS.
Credits: 1 to 2††

ENY 6401 C (EY 612) Insect Physiology. F.
Credits: 5

ENY 6601 (EY 613) Growth and Development in Insects. W.
Credits: 4

ENY 6451 (EY 615) Insect Behavior.
Credits: 5

ENY 6203 (EY 616) Insect Ecology. S.
Credits: 5

ENY 6651 (EY 618) Insect Toxicology. W.
Credits: 5

ENY 6661 (EY 620) Medical Entomology.
Credits: 5

ENY 6591 (EY 621) Mosquitoes. S.
Credits: 5

ENY 6241 (EY 622) Biological Control of Insects. F, S.
Credits: 5

ENY 6611 (EY 623) Immature Insects. F.
Credits: 5

ENY 6581 (EY 624) Acarology. S.
Credits: 5

ENY 6986 (EY 625) Research Techniques in Entomology. W.
Credits: 5

ENY 6502 (EY 626) Aquatic Insects. SS.
Credits: 5

ENY 6761 (EY 630) Plant Parasitic Nematodes. W.
Credits: 5

ENY 6731 (EY 631) Morphology and Physiology of Nematodes. W.
Credits: 5

ENY 6711 (EY 632) Taxonomy of Nematodes. S.
Credits: 3

ENY 6780 C (EY 633) Marine Nematodes. S.
Credits: 5

ENY 6801 (EY 634) Radiation in Insect Studies. W.
Credits: 5

ENY 6261 (EY 635) Insect Resistance to Crop Plants 1. W.
Credits: 4

ENY 6262 (EY 636) Insect Resistance to Crop Plants 2. W.
Credits: 3

ENY 6663 (EY 637) Velerinary Entomology. F.
Credits: 5

ENY 6821 (EY 640) Insect Pathology. S.
Credits: 5

ENY 6822 C (EY 642) Microbial Control of Insects. SS.
Credits: 5

ENY 6906 (EY 696) Problems in Entomology and Nematology. F, W, S, SS.
Credits: 1 to 6

ENY 6911 (EY 697) Supervised Research. F, W, S, SS.
Credits: 1 to 5††

ENY 6942 (EY 698) Supervised Teaching. F, W, S, SS.
Credits: 1 to 5††

ENY 6971 (EY 699) Master's Research. F, W, S, SS.
Credits: 1 to 15††

ENY 7980 (EY 799) Doctoral Research. F, W, S, SS.
Credits: 1 to 15††

ENVIRONMENTAL ENGINEERING SCIENCES
College of Engineering

INSTRUCTIONAL STAFF 1976-77
Pyatt, E.E., Chairman; Bayley, S.E.; Bevis, H.A.;

††Grading is on a S-U basis only.

Bitton, G.; Bolch, W.E. Jr.; Brezonik, P.L.; Dunavant, B.G.; Fox, J.L.; Furman, T. deS.; Harris, L.D.; Heaney, J.P.; Huber, W.C.; Kylstra, C.D.; Lundgren, D.A.; March, A.W.; Morgan, W.H.; Odum, H.T.; Roessler, C.E.; Singley, J.E.; Urone, P.; Zoltek, J., Jr.

COURSES FOR UNDERGRADUATES

EES 2001 (ENV 201) Concepts of Environmental Engineering Sciences. F, S.
Credits: 2
Discussions of current environmental problems and their solutions. Intended as an orientation course for future ENV majors.

ENV 3003 (ENV 301) Environmental Quality and Man. F, W, S, SS.
Credits: 4
Interaction of technological and industrial man with earth's resources and the resultant effect on environmental quality. Identification of air, water, and land pollution causes, effects, and controls. Concepts of environmental management and the socio-economic and institutional factors influencing environmental quality. Intended for non-ENV majors.

EES 3008 (ENV 360) Energy and Environment. W.
Credits: 4
Consideration of the energy basis for man and nature including principles of energy analysis, systems ecology, and public policy.

ENV 3930 (ENV 370) Undergraduate Seminar. F, S.
Credits: 1††
Intended for undergraduate students majoring in Environmental Engineering Science. Talks, lectures, and discussions on selected topics in Environmental Engineering Sciences. May be repeated with change in content up to a maximum of 3 credits.

ENV 4021 (ENV 400) Basic Concepts of Water and Wastewater Treatment. F, S.
Credits: 4; Prereq: CE 451 and ENV 431 or consent of instructor.
An introduction to the basic physical, chemical and biological concepts involved in the treatment of water and wastewater.

EES 4004 (ENV 401) Environmental Engineering Sciences. F, S.
Credits: 4; Prereq: 4EG standing in the Department of Environmental Engineering Sciences or consent of instructor.
The application of engineering and scientific principles to the management of the environment as a closed system. Case studies of water, air and land pollution. Economic and ecological consideration.

EES 4101 (ENV 420) Environmental Microbiology. F, S.
Credits: 4
General concepts of microbiology with emphasis on the role of microorganisms in the polluted environment and in pollution technology.

EES 4401 (ENV 422) Public Health Engineering. W, SS.
Credits: 4
Application of engineering principles to protect public health. Areas covered include: water supply, waste treatment, air pollution, radiological health, occupational health, milk and food sanitation, vector control, solid wastes, and housing hygiene.

EES 4241 (ENV 431) Introduction to Water Analysis. F, S.
Credits: 4; Prereq: Three quarters of general chemistry.
Basic procedures of chemical analysis applied to natural and wastewaters, including sampling and interpretation of water quality.

EES 4201 (ENV 434) The Chemistry of Water Treatment. W, SS.
Credits: 5; Prereq: CY 213 or CY 204 or consent of instructor.
A theoretical and practical study of the examination and treatment of water.

ENV 4201 (ENV 440) Introduction to Radiological Health. W, SS.
Credits: 4
A beginning course covering radiation sources, effects and protection guides. Radiation exposure and protection in medical, occupational and natural environments.

ENV 4241 (ENV 445) Fundamentals of Radiation Protection. S.
Credits: 4; Prereq: NES 435 or equivalent or consent of instructor.
Radiation sources, uses, and effects on humans; examination of radiation protection literature and philosophy; practical radiation protection methods and techniques; review of radiation exposure standards, regulations, legislation.

ENV 4104 (ENV 451) Elements of Atmospheric Pollution. F, S.
Credits: 4
The air pollution problem, causes, sources, effects. Historical development. Physical, political and economic factors in its control.

ENV 4351 (ENV 480) Solid Waste Management. F, S.
Credits: 3
Generation of solid wastes. Collection methods, equipment and costs. Disposal methods, costs and methods of financing.

ENV 4901 (ENV 496) Individual Studies in Environmental Engineering Sciences. F, W, S, SS.
Credits: 1 to 5; Prereq: Consent of instructor.
Selected problems or projects in the student's major field of study.

(ENV 498) Special Problems in Environmental Engineering Sciences. F, W, S, SS.
Credits: 1 to 5
May be repeated with change of content up to a maximum of 12 credits.

ENV 4949 (ENV 499) Co-op Work Experience. F, W, S, SS.
Credits: 1 to 5; Prereq: 4EG classification.
One term industrial employment, including extra work according to a pre-approved outline. Practical engineering work under industrial supervisor, as set forth in the College of Engineering Regulations.

GRADUATE COURSES

ENV 5517 (ENV 500) Treatment of Wastewater.
Credits: 4

EES 5105 (ENV 520) Environmental Biology.
Credits: 4

ENV 5005 (ENV 522) Environmental Health.
Credits: 4

EES 5245 (ENV 531) Water and Wastewater Analysis.
Credits: 4

ENV 5206 (ENV 540) Survey of Radiological Health.
Credits: 4

ENV 5126 (ENV 551) Introduction to Air Pollution.
Credits: 4

EES 5007 (ENV 560) Ecological and General Systems.
Credits: 4

EES 5306 (ENV 561) Ecological Engineering Seminar.
Credits: 2

ENV 5306 (ENV 580) Municipal Refuse Disposal.
Credits: 3

ENV 5930 (ENV 591) Special Topics in Environmental Engineering I.
Credits: 1 to 5. Maximum of 12 credits.

ENV 6516 (ENV 600) Advanced Waste Treatment Operations.
Credits: 4

ENV 6437 (ENV 601) Advanced Environmental Engineering Design 1.
Credits: 5

ENV 6438 (ENV 602) Advanced Environmental Engineering Design 2.
Credits: 5

ENV 6666 (ENV 611) Water Quality Management.
Credits: 4

ENV 6606 (ENV 613) Environmental Resource Systems.
Credits: 4

ENV 6656 (ENV 616) Urban Environmental Problems.
Credits: 4

EES 6356 (ENV 617) Estuarine Systems.
Credits: 4

EES 6355 (ENV 618) Pollution Transport Systems.
Credits: 4

EES 6936 (ENV 624) Water Science Seminar.
Credits: 1 to 5. Maximum of 9.

EES 6166 (ENV 626) Aquatic Microbiology.
Credits: 4

EES 6136 (ENV 627) Biology of Aquatic Systems.
Credits: 4

EES 6106 (ENV 628) Environmental Microbiology.
Credits: 4

EES 6207 (ENV 630) Environmental Chemistry.
Credits: 1 to 5

EES 6246 (ENV 631) Advanced Water Analysis.
Credits: 4

EES 6208 (ENV 632) Principles of Water Chemistry I.
Credits: 3

EES 6209 (ENV 633) Principles of Water Chemistry II.
Credits: 3

ENV 6409 (ENV 634) Advanced Water Treatment.
Credits: 5

ENV 6236 (ENV 641) Radiological Techniques.
Credits: 5

ENV 6216 (ENV 642) Radioactive Wastes.
Credits: 4

ENV 6286 (ENV 643) Electronic Product Radiation.
Credits: 4

ENV 6211 (ENV 644) Health Physics
Credits: 4

EES 6506 (ENV 650) Occupational Health.
Credits: 4

EES 6036 (ENV 652) Environmental Instrumentation.
Credits: 5

ENV 6130 (ENV 653) Aerosol Mechanics.
Credits: 4

ENV 6116 (ENV 654) Air Pollution Sampling and Analysis.
Credits: 4

ENV 6115 (ENV 655) Air Pollution Control Measures.
Credits: 4

ENV 6117 (ENV 656) Environmental Meteorology.
Credits: 4

ENV 6118 (ENV 657) Environmental Micrometeorology.
Credits: 4

EES 6006 (ENV 668) Health Hazards of Man's Environment.
Credits: 4

ENV 6006 (ENV 670) Graduate Environmental Engineering Seminar.
Credits: 1 to 2††

ENV 6932 (ENV 671) Special Problems in Environmental Engineering.
Credits: 1 to 5. Maximum of 12 credits.

ENV 6916 (ENV 693) Non-Thesis Project.
Credits: 1 to 3. Maximum of 3 credits.

ENV 6906 (ENV 696) Individual Work.
Credits: 1 to 5. Maximum of 12 credits.

ENV 6945 (ENV 697) Supervised Research.
Credits: 1 to 5††

ENV 6915 (ENV 698) Supervised Teaching.
Credits: 1 to 5††

ENV 6971 (ENV 699) Master's Research.
Credits: 1 to 15††

ENV 7980 (ENV 799) Doctoral Research.
Credits: 1 to 15††

FINANCE AND INSURANCE
College of Business Administration

INSTRUCTIONAL STAFF 1976-77
Smith, H.C., Acting Chairman; Arditti, F.D.; Barry, C.B.; Bosshardt, D.I.; Brigham, E.F.; Crum, R.L.; Cushinsky, H.M.; Howard, W.M.; Manaster, S; Matthews, C.A.; McCollough, W.A.; Nye, D.J.; Pettway, R.H.; Radcliffe, R.C.; Richardson, J.G.; Taylor, D.G.; Tysseland, M.S.

FIN 3233 (FI 321) Monetary Economics. F, W, S.
Credits: 4, (Ident. with ES 321); Prereq: ES 401 or ES 301.
Analysis of monetary systems and the relationships between money, prices, production, and employment. Factors determining the money supply, with emphasis on the role of commercial and central banks, and money demand.

FIN 3303 (FI 322) Financial Institutions. W.
Credits: 4
A study of the operation of financial institutions, interrelationship between the institutions and their roles in the economic process. Cannot be used for credit for BSBA degree.

FIN 3105 (FI 324) Investments for Individuals. F, S.
Credits: 4
Designed for the non-Business Administration student, this course deals with the principal investment problems the individual faces. Cannot be used for credit for BSBA degree.

FIN 3403 (FI 326) Business Finance. F, W, S, SS.
Credits: 4; Prereq: ATG 201, ATG 203, or ATG 285.
The acquisition and management of funds by business.

RMI 3015 (FI 360) Risk and Insurance. F, W, S, SS.
Credits: 4
Identification of various types of risk; principles underlying selection of appropriate means of handling risks; analysis of insurance as a principle means; organization and operation of insurance companies.

RMI 3217 (FI 361) Property Insurance — Fire and Marine Insurance.
Credits: 4; Offered by correspondence only.
The broad, basic principles underlying Fire and Marine Insurance.

RMI 3215 (FI 362) Property Insurance.
Credits: 4; Offered by correspondence only.
A continuation of FI 361 dealing with casualty insurance, bonds, and agency managements.

RMI 3105 (FI 363) Life Insurance. F.
Credits: 4; Prereq: FI 360.
Use of insurance to protect against economic loss caused by termination of earning capacity: benefits, underwriting, ratemaking and legal doctrines.

RMI 3206 (FI 365) Property and Liability Insurance 1. F.
Credits: 5; Prereq: FI 360.
The institution of property and liability insurance and its role in the economy. Emphasis is on the determinants of the supply of insurance and types of insurance available. A detailed study of the major types of contracts is accomplished with current problems and issues discussed.

RMI 3207 (FI 366) Property and Liability Insurance. 2. W.
Credits: 5; Prereq: FI 360.
A study of the functional aspects of insurance companies and the organization and performance of the industry. Topics include marketing, underwriting, ratemaking, and accounting functions. Regulation, pricing, industry structure, and other public policy issues are emphasized.

FIN 4313 (FI 420) Financial Management of Financial Institutions. F, S, SS.
Credits: 4; Prereq: FI 421.
A study of managerial finance in the setting of a financial institution. The unique problems of the several types of institutions as defined by regulation and practice.

FIN 4244 (FI 421) Money and Capital Markets. F, W, S, SS.
Credits: 4; Prereq: ES 301.
Financial markets; their role in the macroeconomic framework; the flow of funds and the determinants of their market price; the nature of the different markets and their role in the firm's financial decisions.

FIN 4504 (FI 422) Investments. F, W, S, SS.
Credits: 4; Prereq: FI 326.
Nature of investments; investment policies; analysis of securities; the mechanics and mathematics of security purchases; factors influencing security prices, and the nature of the New York Stock Exchange.

FIN 4514 (FI 424) Investment Analysis. W, S, SS.
Credits: 4; Prereq.: FI 422
The analysis of public utility, railroad, and general corporate securities; the supervision of the security industry; factors influencing security values.

FIN 4414 (FI 427) Business Finance Topics. F, W, S, SS.
Credits: 4; Prereq.: FI 326.
Examination of some major areas of Business Finance such as capital budgeting and cost of capital and a consideration of new topics such as mergers, failures and reorganization.

FIN 4424 (FI 428) Applied Business Finance. F, S, SS.
Credits: 4; Prereq.: FI 427, or consent of the instructor.
A study of certain business finance problems. The case method will be used. Students will prepare written solutions to case problems and present oral/visual solutions in class.

FIN 4624 (FI 429) International Finance. S.
Credits: 4; Prereq.: FI 326, FI 421.
A study of financial problems encountered by firms operating in the international environment.

RMI 4135 (FI 462) Group Insurance and Pension Plans. S.
Credits: 4; Prereq.: FI 360 or FI 363.
Group life and health insurance; pension and profit sharing plans.

RMI 4506 (FI 463) Social Insurance. W.
Credits: 4
Government insurance programs designed to alleviate problems created by old age, poor health, and unemployment: structure, relationships with private programs, and proposals for expanding.

RMI 4120 (FI 464) Health Insurance. S.
Credits: 4
Public and private mechanisms for meeting financial risks of sickness and injury.

RMI 4805 (FI 486) Estates, Trusts and Insurance. W.
Credits: 4; Prereq.: FI 360 or consent of instructor.
Estate planning; coordination of life insurance with other assets; living and testamentary trusts; life insurance trusts; wills; guardianships; and tax aspects of estate planning.

RMI 4305 (FI 487) Risk Management. S.
Credits: 5; Prereq.: FI 360 or consent of instructor.
A course in applied risk theory. Topics include estimation of risk, determination of methods of handling risk, optimal levels of self insurance and deductibles, and estimation of necessary amounts of reserves.

FIN 4914 (FI 496) Independent Research. F, W, S, SS.
Credits: 1 to 5; Prereq: Senior standing and previous work in the area selected for research.
Admissions is by the consent of the department. A written report or reports will be required.

FIN 4934 (FI 498) Special Topics. F, W, S, SS.
Credits: 1 to 5; Prereq.: Permission of department.
Course of variable content providing an opportunity for study in depth of topics not offered in other courses and of topics of special current significance. May be repeated with a change in content up to a maximum of 10 credits.

GRADUATE COURSES

For admission to courses listed below, the student must have been admitted to the Graduate School and normally should have had undergraduate courses in fields pertinent to the graduate courses selected; or where necessary, special arrangements may be made with the approval of the Department chairman.

Though no graduate major may be completed without adequate course work on the 600 or higher level, certain undergraduate courses in finance and insurance are available for graduate credit as part of a candidate's major. These are FI 462 Group Insurance and FI 486 Estates, Trusts and Insurance.

FIN 5354 (FI 520) Financial Markets and Institutions.
Credits: 4; Prereq.: Intermediate Macroeconomics or consent of the instructor.

FIN 5524 (FI 524) Security Markets and Pricing.
Credits: 4; Prereq.: FI 590 or consent of the instructor.

FIN 5425 (FI 528) Corporation Finance.
Credits: 4; Prereq.: FI 427 or consent of the instructor.

FIN 5405 (FI 590) Business Financial Management.
Credits: 4

FIN 6826 (FI 620) Problems in Commercial Banking.
Credits: 5

FIN 6816 (FI 622) Seminar in Investments.
Credits: 5

††Grading is on a S-U basis only.

FIN 6246 (FI 625) Money and Capital Markets.
Credits: 5

FIN 6446 (FI 627) Problems in Corporation Finance.
Credits: 5

FIN 6626 (FI 629) International Finance: Monetary Systems.
Credits: 5

FIN 6456 (FI 637) Quantitative Analysis of Financial Decisions.
Credits: 5

RMI 6195 (FI 662) Seminar in Life Insurance.
Credits: 5

RMI 6296 (FI 665) Seminar in Property and Liability Insurance.
Credits: 5

RMI 6936 (FI 668) Problems in Risk Management.
Credits: 3

RMI 6971 (FI 691) Finance Research and Reports.
Credits: 2; Prereq.: BA 690 — Business research and reports.

FIN 6906 (FI 696) Individual Work in Finance.
Credits: 1 to 5.

RMI 6917 (FI 697) Supervised Research.
Credits: 1 to 5††

FIN 6946 (FI 698) Supervised Teaching.
Credits: 1 to 5††

FIN 6971 (FI 699) Master's Research.
Credits: 1 to 15††

FIN 7808 (FI 727) Theory of Finance I.
Credits: 5

FIN 7809 (FI 728) Theory of Finance II.
Credits: 5

FIN 7938 (FI 790) Finance Research Workshop.
Credits: 4

FIN 7980 (FI 799) Doctoral Research.
Credits: 1 to 15††

FINE ARTS
College of Fine Arts

HUM 2020 (FA 200) Introduction to the Fine Arts. F, S.
Credits: 4
An introduction to the disciplines, activities and purposes of the Fine Arts.

FOOD AND RESOURCE ECONOMICS
College of Agriculture

INSTRUCTIONAL STAFF 1976-77
Polopolus, L., Chairman; Andrew, C.O.; Carriker, R.; Cato, J.C.; Clark, H.B.; Clayton, K.C.; Colette, W.A.; Covey, C.D.; Davis, C.G.; Dow, J.K.; Eastwood, R.A.; Emerson, R.D.; Finlayson, E.H.; Gunter, D.L.; Holt, J.; Kepner, K.W.; Kiker, C.; Langham, M.R.; Loehman, E.T.; Lynne, G.D.; Mathis, K.; McPherson, W.W.; Melton, B.E.; Mulkey, D.; Myers, L.H.; Niles, J.A.; Prochaska, F.J.; Reynolds, J.E.; Smith, C.N.; Spreen, T.; Stewart, F.J.; Strain, J.R.; Takayama, T.; Tilley, D.S.; Upchurch, M.L.; van Blokland, P.J.; Wall, E.B.; Ward, R.W.; Wershow, J.S.; Zepp, G.A.

††Grading is on a S-U basis only.

AEB 3934 (FRE 300) Food and Resource Economics Junior Seminar. W.
Credits: 1
An introduction to the programs, problems, sources of data and other information, and analytical techniques in food and resource economics.

AEB 3103 (FRE 301) Principles of Food and Resource Economics. F, W, S, SS.
Credits: 5
An introduction to the field of food and resource economics; principles of economics as applied to agriculture; economic problems of the agricultural industry and the individual farmer.

AEB 3111 (FRE 304) Computers and Linear Programming for Agriculture. F, W, S.
Credits: 3
A basic understanding of the way computers operate and how they can be used. The use of computers is taught in connection with the solving of linear programming problems using standard routines. Linear Programming problems deal with least cost ration formulation and maximum profit farm organization.

AEB 3123 (FRE 305) Law Applied to Agriculture. W.
Credits: 4
Legal aspects of agricultural rights, responsibilities, and problems. Topics include agricultural estate and income taxation, zoning and land use planning, agricultural labor and consumer protection.

AEB 3133 (FRE 310) Farm Firm Management. F, W, S, SS.
Credits: 5; Prereq.: FRE 301.
Introduction to management principles. Application of economic principles, budgeting techniques and principles of strategy in agricultural firm management. The causes of success and failure in farming. Planning and execution for successful firm management.

AEB 3300 (FRE 320) Marketing. F, W, S, SS.
Credits: 5; Prereq.: FRE 301.
Basic principles of marketing with emphasis on market functions, services and organization. Elementary price analysis. The role of government and cooperatives in marketing. Problems of cooperatives — reasons for success and failure. One field trip usually required.

AEB 3306 (FRE 322) Agricultural Commodity Marketing. S.
Credits: 3
Basic elements and principles of agricultural commodity marketing, including special focus upon marketing problems and issues affecting the livestock, dairy, poultry, citrus, vegetable and ornamental industries. Student participation in a computerized futures trading game required.

AEB 3141 (FRE 330) Agricultural Finance and Rural Appraisal. W, SS.
Credits: 4; Prereq.: FRE 310.
The principles of credit and problems peculiar to financing farmers and farmers' association. Special attention to modern land appraisal principles and methods. One field trip usually required.

AEB 3413 (FRE 332) Economics of Environmental Quality. F.
Credits: 4; Prereq.: ES 202 or equivalent.
The environmental quality problem in relation to current technology, economic principles, legal and political constraints, and institutions. The applicability of these principles as related to specific problems: water and air pollution, agricultural insecticides, noise, congestion, aesthetic values, recreation.

AEB 4941 (FRE 400) Full Time Practical Work Experience in Food & Resource Economics. F, W, S, SS.
Credits: 1-4; S-U Grade only. Prereq.: Prior arrangement with adviser, approval of Department Chairman and Dean.
Practical work must be a new experience and related to the field of study.

AEB 4935 (FRE 401) Food and Resource Economics. Senior Seminar. S.
Credits: 1; Prereq.: Senior classification and FRE 301.
Lectures and discussions on current problems and special areas of interest in Food and Resource Economics. Students make reports on approved topics.

AEB 4931 (FRE 409) Special Topics in Food and Resource Economics. F, W, S, SS.
Credits: 1 to 3; Maximum credits: 6; Prereq.: Consent of department.
Lectures, conferences or laboratory covering specially selected topics in food and resource economics. May be repeated with change of content.

AEB 4152 (FRE 410) Farm Business Analysis. F.
Credits: 4; Prereq.: FRE 301 and consent of instructor.
Application of business and economic principles in the successful management of a farm. Obtaining information needed for a farm business analysis, making necessary calculations and use of budgeting to determine adjustments needed in the farm business. At least five different kinds of farms will be analyzed by the students, involving five one-day field trips.

AEB 4164 (FRE 411) Management of Farms in Tropical Areas. SS.
Credits: 3; Prereq.: FRE 301 and consent of instructor.
The principles and analytical techniques applied to the choice of enterprises and factors of production, and management of subsistence and commercial farms in tropical areas. May be substituted for FRE 310.

AEB 4421 (FRE 412) Agricultural Labor Economics. S.
Credits: 3; Prereq.: FRE 301.
Survey course primarily for students in related agricultural disciplines. Topics covered include agricultural labor market analysis, labor policies and regulations, agricultural labor management, labor relations, and collective bargaining in agriculture.

AEB 4314 (FRE 421) Terminal Markets and Commodity Exchanges. S.
Credits: 2; Prereq: Consent of Instructor.
Terminal market organization and facilities for agricultural products, including the commodity exchanges. Visitation and inspection of firms and facilities in large terminal markets in the East or Midwest will entail a field trip of eight to ten days. This field trip will be taken during the interim between the Winter and Spring quarters. A fee of $75.00 for a laboratory field trip is required. An additional sum may be required at the time the trip is made. Participation in this course is contingent upon notifying the instructor of intent not later than 20 days before the beginning of the examination period for the Winter Quarter.

AEB 4672 (FRE 423) International and Interregional Trade in Agriculture. W.
Credits: 3; Prereq: FRE 320, equivalent or consent of Instructor.
Behavior of economic forces associated with trade in food and agricultural products between Florida and other regions of the U.S. and between countries. Economic principles and analytical techniques applied to the study of supply, demand and prices for Florida and U.S. imports and exports of agricultural commodities. Consideration of the competitive position of

Florida agriculture in state, national, and foreign markets.

AEB 4324 (FRE 424) Case Studies of Agricultural Marketing Firms, F.
Credits: 4; Prereq.: Consent of Instructor.
Case analysis and quantitative approach is used to study major problems confronted by the management in agricultural firms.

AEB 4334 (FRE 425) Agricultural Price Analysis and Consumer Behavior. W, S.
Credits: 4; Prereq: FRE 301 and ES 302 and FRE 460.
Major factors affecting agricultural prices; seasonal and cyclical fluctuations; index measures of price and quantity variables; theory and application of consumer behavior principles.

AEB 4343 (FRE 426) Food Wholesaling. W.
Credits: 3
Exposes the student to all major aspects of operating a wholesale warehouse. These aspects are: buying, receiving, accounting, handling and storing, selecting, loading and shipping, and labor management. Student observes actual warehouse operations in a variety of warehouses — food, general and specialized, and non-food.

AEB 4344 (FRE 427) Principles and Practices of Food Retailing. S.
Credits: 3.
The importance of food retailing to the consumer, agriculture and the nation's food system. Principles and practices of food merchandising. Organization, operations and economics of food stores. Individual attention to each store, department and product category. Special emphasis on productivity of major resources — human, physical, financial. Management methods and sales techniques are included.

AEB 4434 (FRE 430) Land and Water Economics. W.
Credits: 4; Prereq: FRE 301 and ES 302.
Principles governing the use of agricultural, forest, range and recreational land in Florida and the Caribbean area with emphasis on supply and demand, location, economic value, tenure, taxation, and conservation.

AEB 4224 (FRE 440) Public Policy in Agriculture. W,SS.
Credits: 4; Prereq: FRE 301 or consent of instructor.
A history of farmer attempts and accomplishments through organization and legislation to improve the economic and social status of agriculture. The basic problems and concepts involved in developing and carrying out agricultural policy. Evaluation of present legislative programs and policies affecting the farmer.

AEB 4726 (FRE 447) Income and Employment of Rural People. S.
Credits: 5; Prereq: ES 301, 302 or FRE 301.
Effects of economic, technical and institutional conditions upon employment and incomes of rural people. Analysis of poverty and poverty programs. The human agent and group decision making in and group decision making in rural economic development.

AEB 4511 (FRE 460) Quantitative Analysis in Food and Resource Economics. F, S.
Credits: 4; Prereq.: MS 301 or consent of instructor.
Application of calculus and matrix algebra to topics in food and resource economics. Necessary background for topics covered in FRE 607, FRE 610, FRE 620 and FRE 608.

AEB 4172 (FRE 465) Basic Activity Analysis for Economic Decisions. S.
Credits: 4; Prereq.: FRE 301 and STA 320
Basic activity analysis applied to problems of agricultural and forestry firms. Application of linear programming methods to problems of planning over time, space, and form, with an introduction to standard linear programming computer routines and other selected operations research and systems analysis techniques.

AEB 4905 (FRE 496) Special Problems in Food and Resource Economics. F, W, S, SS.
Credits: 1 to 6; max. 6.
Individual study in selected problem areas. Aspects of problems of interest to the student and agreeable to the instructor.

GRADUATE COURSES

AEB 5932 (FRE 501) Special Topics in Food and Resource Economics. F, W, S, SS.
Credits: 1 to 6; Max. 6

AEB 5357 (FRE 522) Firm Efficiency. W.
Credits: 3

AEB 5444 (FRE 531) Natural Resource Planning and Development. S.
Credits: 4; Prereq.: MS 302 and ES 301.

AEB 5612 (FRE 541) Foreign Agricultural Development Planning. SS.
Credits: 5

AEB 6933 (FRE 603) Topics in Food and Resource Economics. F, W, S, SS.
Credits: 1 to 6; max. 6

AEB 6182 (FRE 604) Intermediate Agricultural Production Economics. F.
Credits: 4

AEB 6363 (FRE 605) Intermediate Consumption Economics and Agricultural Marketing. W.
Credits: 4

AEB 6727 (FRE 606) Rural Welfare and Development Policy.
Credits: 5

AEB 6592 (FRE 607) Activity Analysis for Economic Decisions. F.
Credits: 4

AEB 6553 (FRE 608) Elements of Econometrics. W.
Credits: 4

AEB 6184 (FRE 610) Economics of Agricultural Production I. W.
Credits: 5

AEB 6186 (FRE 611) Economics of Agricultural Production II. S.
Credits: 5

AEB 6373 (FRE 620) Consumption and Demand. S.
Credits: 5

AEB 6383 (FRE 621) Industrial Organization of Agricultural Markets. F.
Credits: 4

AEB 6453 (FRE 630) Natural Resource Economics. S.
Credits: 4

AEB 6455 C (FRE 631) Land Tenure and Taxation in Agriculture.
Credits: 4

AEB 6465 (FRE 632) Natural Resource Utilization.
Credits: 4

AEB 6252 (FRE 640) Foundations of Agricultural Policies. F.
Credits: 3

AEB 6263 (FRE 641) Agricultural Policies and Programs in the United States. S.
Credits: 3

AEB 6645 (FRE 645) Economic Development and Agriculture. W.
Credits: 5

AEB 6651 (FRE 646) Agriculture's Role in the Growth of Latin American Nations. SS.
Credits: 4

AEB 6674 (FRE 650) International Agricultural Policy and Trade. W.
Credits: 5

AEB 6533 (FRE 660) Nonstochastic Models. SS.
Credits: 5; [Ident. with ES 660].

AEB 6571 (FRE 661) Econometric Methods I. F.
Credits: 5; [Ident. with ES 661].

AEB 6572 (FRE 662) Econometric Methods II. W.
Credits: 4; [Ident. with ES 662].

(FRE 663) Research Seminar in Econometrics. S.
Credits: 1 to 3; [Ident. with ES 663].

(FRE 680) Regional Economics. F.
Credits: 5; [Ident. with ES 680].

AEB 6483 (FRE 682) Regional Economic Planning. S.
Credits: 5

AEB 6815 (FRE 690) Science and Research Methodology. S.
Credits: 3

AEB 6835 (FRE 691) Procedures in Planning and Conducting Research.
Credits: 3

AEB 6907 (FRE 696) Problems in Food and Resource Economics. F, W, S, SS.
Credits: 1 to 9; Max. 9

AEB 6911 (FRE 697) Supervised Research.
Credits: 1 to 5††

AEB 6942 (FRE 698) Supervised Teaching.
Credits: 1 to 5††

AEB 6971 (FRE 699) Master's Research.
Credits: 1 to 15††

AEB 7980 (FRE 799) Doctoral Research.
Credits: 1 to 15††

FOOD SCIENCE
College of Agriculture

INSTRUCTIONAL STAFF 1976-77

Dennison, R.A., Chairman; Ahmed, E.M.; Appledorf, H.; Araujo, P.E.; Bailey, L.B.; Bates, R.P.; Deng, J.; Dinning, J.S.; Knapp, F.W.; Koburger, J.A.; Matthews, R.F.; Moye, H.A.; Oblinger, J.L.; Robbins, R.C.; Schmidt, R.H.; Surak, J.G.; Thompson, N.P.; Wagner, P.A.; Wheeler, W.B. The following faculty from other departments and units instruct in the Food Science program: Bachman, K.C.; Baird, C.D.; Braddock, R.J.; Crandall, P.G.; Eagerman, B.A.; Emerson, A.P.; Janky, D.M.; Kesterson, J.W.; Mull, L.E.; Palmer, A.Z.; Richter, R.L.; Smith, K.L.; Thomas, W.C.; West, R.L.

FOS 2001 (FS 201) Man's Food. F, W, S.
Credits: 2
World population and food problems. Relationship of man's health to production, conservation and consumption patterns.

FOS 2002 (FS 202) Food and Consumer Protection. W.
Credits: 2
Technological problems and changing attitudes toward new products, new food sources, food labelling, additives, nutrition, wholesomeness, sanitation, pollution and the responsibilities of the food industry.

FOS 2003 (FS 203) Toxic Substances in Foods. S.
Credits: 1
Historical development, the current status of the problem areas and the impact upon society of hazards in foods will be discussed from a non-technical standpoint.

††Grading is on a S-U basis only.

Descriptions

HUN 2201 (FS 250) Fundamentals of Human Nutrition. W.
Credits: 4
The properties, functions, requirements, interrelationships and metabolism of nutrients. In order to satisfy the nutrition requirement of the American Dietetic Association it is necessary to take FS 350.

FOS 3042 (FS 301) Introductory Food Science. F, S.
Credits: 4; Prereq.: CY 202
The student will be exposed to the commodities selected for human consumption and the methods used by food technologists to prolong shelf life, retard spoilage and ensure quality. The principles upon which the various processing methodologies are based will be stressed.

HUN 3221 (FS 350) Introduction to Human Nutrition. S.
Credits: 4; Prereq.: HRP (MED) 331; BCH 351 or 411
This course will serve as an introduction to aspects of food habits, food resources and diet in health and disease. The metabolic relationships of various food constituents will be discussed with emphasis upon their roles in physiological processes as well as variations of nutritional requirements in response to stress situations.

FOS 4940 (FS 400) Full Time Practical Work Experience in Food Science. F, W, S, SS.
Credits: 1 to 4; S-U Grade only. Prereq.: Prior arrangement with adviser, approval of Department Chairman and Dean. One term employment in food industry including extra work according to a pre-approved outline. Practical work under industrial supervision as set forth in College of Agriculture regulations.

FOS 4311 (FS 402) Food Chemistry. F.
Credits: 5; Prereq: FS 301, Organic Chemistry.
Relationship of composition to the properties of foods and the changes which occur during processing, storage and utilization.

FOS 4222 (FS 403) Food Microbiology. W.
Credits: 5; Prereq.: MCS 302 and MSC 303.
Sources of biological contamination and their control during harvesting, handling, processing and storage of foods; food fermentation; Hygiene and sanitation; and methods used to examine foods for total microbial content and for specific groups of organisms.

FOS 4411 (FS 404) Principles of Food Engineering. W.
Credits: 5; (Ident with MCA 404); Prereq.: MS 102 and 5 credits of physics.
The functional requirements and principles of operation of systems for handling and processing of food and agricultural products.

HUN 4241 (FS 405) Human Nutrition. F.
Credits: 4; Prereq.: FS 350.
A discussion of the chemical, physiological and cultural considerations underlying the application of nutrition to the human.

DIE 4244 (FS 406) Nutrition and Disease. W.
Credits: 4; (Ident. with CCD 406); Prereq.: FS 405
Diseases related to nutrient intake; nutritional requirements created by diseases. These will be coordinated with analysis of diets used in medical treatments.

DIE 4125 (FS 407) Food Systems Management. SS.
Credits: 4; (Ident. with CCD 407); Prereq.: FS 301 and FS 350
Aspects of quantity food service systems; technological developments; management and physical facilities.

FOS 4731 (FS 411) Government Regulations and the Food Industry. F.
Credits: 2
Governmental laws and rules regulating food wholesomeness and freedom from disease causing agents; food handling, processing and distribution under sanitary conditions; food ingredients and the labeling of food and food type products.

FOS 4321 (FS 412) Food Analysis. S.
Credits: 5; Prereq: FS 402, Physics.
Principles and practice of physical and chemical methods for analyzing foods.

FOS 4722 (FS 414) Statistical Quality Control and Sensory Evaluation of Foods. W.
Credits: 3; Prereq.: STA 320; 8 credits of FS 400 level course work recommended.
Application of statistics and sensory evaluation to selection of raw products and quality control during processing, storage and marketing.

FOS 4232 (FS 415) Environmental Toxicology and Public Health. F.
Credits: 4; (Ident with VY 415); Prereq.: Organic Chemistry.
Drugs and toxicants, their metabolism as influenced by food or residues; drug induced deficiency diseases; adverse reactions; mycotoxins; common poisons, their diagnosis, prevention and treatment.

FOS 4931 (FS 421) Food Science Seminar. S.
Credits: 1

FOS 4252 (FS 441) Food Epidemiology. W.
Credits: 4; Prereq.: FS 250, FS 403, or consent of instructor.
Introduction to the principles and practices of epidemiology with special emphasis on the epidemiological aspects of foodborne, waterborne and nutritional diseases.

FOS 4427 (FS 450) Principles of Food Processing. S.
Credits: 5; Prereq.: FS 301, FS 402, FS 403; or consent of instructor.
Principles of processing and preserving foods by cooling, freezing, heating, dehydrating, concentrating, irradiating, fermenting and use of chemicals.

FOS 4513 (FS 451) Meat Processing. S.
Credits: 4; (Ident with AL: 451), Prereq.: CY 202 and MS 102.
Methods used for processing and the Federal and State Regulations for meat.

FOS 4551 (FS 452) Fruit and Vegetable Processing. SS.
Credits: 4; Prereq.: CY 203
Principles and application of processing methods for fruits and vegetables and the control of product quality.

FOS 4531 (FS 453) Poultry Products Technology. W.
Credits: 4; (Ident with PY 453); Prereq.: ADP 311.
Processing methods, composition, nutritive value, flavor, palatability and shelf-life of poultry, meat and eggs.

FOS 4541C (FS 455) Dairy Technology. F.
Credits: 5; (Ident with DY 455).
Nature and properties of milk constituents; effects of processing on milk constituents; defects in dairy foods and their causes; dairy foods processing; and analytical procedures for processing and quality control.

FOS 4933 (FS 496) Special Problems in Food Science. F, W, S, SS.
Credits: 1 to 7
Individual research work in various phases of Food Science. May be repeated up to a maximum of 7 credits.

GRADUATE COURSES

FOS 6915 (FS 600) Research Planning.
Credits: 2

FOS 6226 (FS 601) Advanced Food Microbiology.
Credits: 4

FOS 6641 (FS 602) Nutritional Aspects of Foods.
Credits: 4

FOS 6355 (FS 603) Instrumental Analysis and Separations.
Credits: 4

FOS 6371 (FS 604) Pesticide Analysis.
Credits: 4

FOS 6428 (FS 606) Food Processing Systems.
Credits: 4

FOS 6315 (FS 607) Food Chemistry.
Credits: 4

FOS 6726 (FS 608) Psychophysical Aspects of Foods.
Credits: 4

AGR 6661 C (FS 611) Sugarcane Processing Technology.
Credits: 4; [Ident. with AY 611].

FOS 6455 (FS 613) Industrial Food Fermentations.
Credits: 4

FOS 6435 (FS 621) Food Product Development.
Credits: 4

HUN 6245 (FS 641) Advanced Human Nutrition.
Credits: 3

HUN 6321 (FS 642) Proteins and Amino Acids in Nutrition.
Credits: 3

HUN 6301 (FS 643) Nutritional Aspects of Carbohydrates and Lipids.
Credits: 3

HUN 6292 (FS 644) Current Topics in Human Nutrition.
Credits: 3

(FS 645) Nutritional Status and Food Policy.
Credits: 3

FOS 6936 (FS 651) Topics in Food Science.
Credits: 1 to 4; max. 6

FOS 6938 (FS 661) Food Science Seminar.
Credits: 1††

(FS 696) Problems in Food Science and Nutrition.
Credits: 1 to 6; Max. 12.

FOS 6911 (FS 697) Supervised Research.
Credits: 1 to 5††

FOS 6941 (FS 698) Supervised Teaching.
Credits: 1 to 5††

FOS 6971 (FS 699) Master's Research.
Credits: 1 to 15††

FOREIGN LANGUAGES
College of Arts & Sciences

Chinese**

INSTRUCTIONAL STAFF 1976-77
Ch'u, C.C.; Johnson, I.

CHI 1120 (CH 133) Beginning Chinese 1. F.
Credits: 5

CHI 1121 (CH 134) Beginning Chinese 2. W.
Credits: 5; Prereq: CH 133 (grade of C or better, or S) or equivalent.

††Grading is on a S-U basis only.
**Administered by Department of Romance Languages and Literatures.

CHI 1122 (CH 135) Beginning Chinese 3. S.
Credits: 5; Prereq: CH 134 (grade of C or better, or S) or equivalent.

CHI 2201 (CH 202) Second-Year Chinese. F.
Credits: 4; Prereq: CH 135 or equivalent.

CHI 2202 (CH 203) Second-Year Chinese. W.
Credits: 4; Prereq: CH 202 or equivalent.

CHI 3500 (CH 330) Chinese Culture. F, W.
Credits: 4; Prereq: None.
An introduction to Chinese culture with emphasis on its philosophy, language, literature, art and people as a whole. All readings in English.

Japanese

INSTRUCTIONAL STAFF 1976-77
Rolf, R.

JAP 1120 (JE 133) Beginning Japanese 1. F.
Credits: 5

JAP 1121 (JE 134) Beginning Japanese 2. W.
Credits: 5; Prereq: JE 133 (grade of C or better, or S) or equivalent.

JAP 1122 (JE 135) Beginning Japanese 3. S.
Credits: 5; Prereq: JE 134 (grade of C or better, or S) or equivalent.

CLASSICS

INSTRUCTIONAL STAFF 1976-77
Schmeling, G.L., Chairman; Dickison, S.; Hartigan, K.; Miller, D.G.; Sussman, L.

An undergraduate major in Classics is interdisciplinary in nature with an emphasis on Greek, Latin, or a combination. An undergraduate major is required to take 12 quarter hours of Greek or Latin above GK or LN 135, or complete the 133-4-5 series in both GK and LN. In addition there is a requirement of: 1 course in Ancient History (HY) or Philosophy (PPY); CS 450: 5 other courses above 200 (from any department) which deal with the ancient world.

To graduate with departmental honors a student must attain a 3.5 average in his major (excluding courses below the 300-level), and complete in his Senior year some special project approved as honors work.

CLASSICS
(All courses indicated CS are taught in English)

CLT 2370 (CS 201) Myths of the Greeks and Romans. F.
Credits: 4; Prereq: None.
The development, importance and influence of Greco-Roman Mythology. The main Latin and Greek literary sources read in translation.

CLA 2700 (CS 202) Greek Life and Letters; Classical Archaeology. W.
Credits: 4; Prereq: None.
Illustrated lectures on archaeology, its processes of discovery and methods. History of major archaeological exploration in Mediterranean lands compared with extant literary information.

CLT 2371 (CS 203) Religion of the Greeks and Romans. S.
Credits: 4; Prereq: None.
The development, importance, and influence of Greek and Roman religion and cult practice. The main literary and epigraphical sources read in translation.

HSC 2531 (CS 204) Health and Life Sciences Terminology.
Credits: 4; Prereq: None.
An intensive study of Greek and Latin word roots, suffixes and prefixes, and how they are used and combined to form the specialized vocabulary of the various health and life sciences.

(CS 205) An Introduction to Greek and Latin Literature. W.
Credits: 4; Prereq: None.
A unifying survey of the various genres of literature originating in Classical and Judaeo-Christian antiquity.

CLT 3291 (CS 301) Greek Life and Letters: The Greek Drama. W.
Credits: 4; Prereq: None.
The classical Greek theatre. Archaeological remains of important theatres. Selected plays of Aeschylus, Sophocles, Euripides, Aristophanes, and Menander in translation.

CLT 3340 (CS 302) Greek and Roman Epic. S.
Credits: 4; Prereq: None.
The origin, development, and importance of ancient epic. Emphasis on Homer and Vergil, read in translation.

CLT 3230 (CS 303) Ancient Novel. F.
Credits: 4; Prereq: None.
The origin, development, and influence of the ancient novel (1st to 4th century A.D.). Petronius, Apuleius, Longus, and others, read in translation.

CLA 3501 (CS 304) Women in Classical Antiquity. W.
Credits: 4; Prereq: None.
The status of women in antiquity will be examined in light of modern thinking on the subject of women's roles in society.

CLA 4935 (CS 450) Classical Studies Program Seminar.
Credits: 4; Prereq: Completion of Classical Program.

CLT 4905 (CS 496) Individual Study. F, W, S.
Credits: 4; Prereq: None.
Reading conference and reports. With change of content, may be elected for additional credits. All work done in translation.

Greek

GRE 1120 (GK 133) Beginning Greek 1. F.
Credits: 5

GRE 1121 (GK 134) Beginning Greek 2. W.
Credits: 5; Prereq: GK 133 (grade of C or better, or S) or equivalent.

GRE 1122 (GK 135) Beginning Greek 3. S.
Credits: 5; Prereq: GK 134 (grade of C or better, or S) or equivalent.

GRW 2250 (GK 201) New Testament Greek. S.
Credits: 4; Prereq: Some knowledge of Greek and consent of the instructor.
Review of grammar and forms. Readings from several books of the New Testament.

GRW 3120 (GK 307) Survey of Greek Literature 1. F.
Credits: 4; Prereq: GK 135, or equivalent.
Study of representative texts of early Greek literature in the 8th to 6th century B.C.

GRW 3121 (GK 308) Survey of Greek Literature 2. W.
Credits: 4; Prereq: GK 135, or equivalent.
Study of representative texts of the fifth century B.C.

GRW 3122 (GK 309) Survey of Greek Literature 3. S.
Credits: 4; Prereq: GK 135, or equivalent.
Study of representative texts of the Hellenistic age from the 4th to the 1st century B.C.

GRW 4900 (GK 496) Individual Work. F, W, S.
Credits: 4; Prereq: GK 135, or the equivalent.
Reading, conference and reports. With change of content, may be elected for additional credit.

Hebrew

HEB 1100 (HW 133) Beginning Hebrew 1. F.
Credits: 5

HEB 1101 (HW 134) Beginning Hebrew 2. W.
Credits: 5; Prereq: HW 133 or equivalent.

HEB 1102 (HW 135) Beginning Hebrew 3. S.
Credits: 5; Prereq: HW 134 or equivalent.

HEB 3210 (HW 307) Intermediate Hebrew 1. F.
Credits: 4; Prereq: HW 135, or equivalent.

HEB 3211 (HW 308) Intermediate Hebrew 2. W.
Credits: 4; Prereq: HW 135, or equivalent.

HEB 3212 (HW 309) Intermediate Hebrew 3. S.
Credits: 4; Prereq: HW 135, or equivalent.

Latin

LAT 1120 (LN 133) Beginning Latin 1. F.
Credits: 5

LAT 1121 (LN 134) Beginning Latin 2. W.
Credits: 5; Prereq: LN 133 (grade of C or better, or S) or equivalent.

LAT 1122 (LN 135) Beginning Latin 3. S.
Credits: 5; Prereq: LN 134 (grade of C or better, or S) or equivalent.

LAT 3210 (LN 307) Survey of Latin Literature 1. F.
Credits: 4; Prereq: LN 135, or the equivalent.
Study of representative texts from Republic and early Classical periods.

LAT 3211 (LN 308) Survey of Latin Literature 2. W.
Credits: 4; Prereq: LN 135, or the equivalent.
Study of representative texts of the age of Cicero and Augustus.

LAT 3212 (LN 309) Survey of Latin Literature 3. S.
Credits: 4; Prereq: LN 135, or the equivalent.
Study of representative texts of Post-Augustan Literature: The Silver Age.

LNW 4900 (LN 496) Special Study in Latin. F, W, S.
Credits: 4; Prereq: LN 309, or equivalent.
Reading, conference and reports. With change of content, may be elected for additional credit.

GRADUATE COURSES

LNW 5901 (LN 596) Special Study in Latin.
Credits: 4

LNW 6902 (LN 600) Special Study in Latin Literature.
Credits: 5

LAT 6840 (LN 620) History of the Latin Language.
Credits: 5

LNW 6908 (LN 696) Individual Work.
Credits: 3 to 5

LNW 6910 (LN 697) Supervised Research.
Credits: 1 to 5††

LNW 6940 (LN 698) Supervised Teaching.
Credits: 1 to 5††

LNW 6971 (LN 699) Master's Research.
Credits: 1 to 15††

Foreign Language — Cross Departmental**

FOL 2905 (FLE 296) Individual Work in Foreign Languages. F, W, S.
Credits: 3 to 5; Prereq: Permission of the department.

FOL 3730 (FLE 302) Introduction to African Linguistics. W.
Credits: 4; Prereq: LIN 290 or equivalent.
A linguistic survey of sub-Saharan African languages.

††Grading is on a S-U basis only.
**Administered by Department of Romance Languages and Literatures.

LIN 3142 (FLE 351) Comparative Study of Foreign Languages. W, SS.
Credits: 4
Emphasis on historical linguistics.

FOL 4906 (FLE 496) Individual Work. F, W, S, SS.
Credits: 3 to 5; Prereq: Permission of the department.

GERMANIC AND SLAVIC LANGUAGES AND LITERATURES

INSTRUCTIONAL STAFF 1976-77
Gellinek, C.J., Chairman; Barksdale, E.C.; Johnson, L.P.; Johnston, O.W.; Kraft, H.W.; Popp, D.M.; Schurer, E.I.; Sullivan, W.J.; Valk, M.E.
Undergraduate Coordinator: O.W. Johnston
Graduate Coordinator: E.I. Schurer

Students who have had previous formal training in German or Russian at another institution are required to take a placement test before registering.

An undergraduate major is offered in both German and Russian. Students interested in these programs should consult a departmental adviser at the earliest opportunity. The major consists of 40 quarter hours above the second-year college level (GN 202 or equivalent) including the departmental requirements GN 412 or GN 455 (for German students) or RSN 413 (for Russian students).

NCATE requirements formulated by the College of Education have to be met if Florida Teacher Certification is desired.

A student majoring in German or Russian who desires to be graduated with departmental honors should apply to the department near the end of his Junior year. To qualify for departmental honors, the student must achieve a 3.S grade point average in all courses in his major field above the 202 level. An additional requirement is that the student complete with distinction a special project assigned as honors work during the Senior year, and be recommended by three or more members of the departmental staff.

German

GER 1120 (GN 133) Beginning German 1. F, W, S, SS.
Credits: 5

GER 1121 (GN 134) Beginning German 2. F, W, S, SS.
Credits: 5; Prereq: GN 133 (grade of C or better or S), or the equivalent.

GER 1122 (GN 135) Beginning German 3. F, W, S, SS.
Credits: 5; Prereq: GN 134 (grade of C or better or S), or the equivalent.

GER 2250 (GN 201) Readings in Scientific German. F, W.
Credits: 4; Prereq: GN 135, or the equivalent.

GER 2200 (GN 202) Readings in German Culture. F, W, S.
Credits: 4; Prereq: GN 135, or the equivalent.

GET 2480 (GN 250) Introduction to Modern German Literature in Translation. F.
Credits: 4; Prereq: None. Not for major credit.

GEW 2930 (GN 251) Variable Languages: Danish, Dutch, Norwegian, Swedish.
Credits: 5 to 15

GER 3410 (GN 304) Understanding and Speaking German. F, S.
Credits: 4; Prereq: GN 202, or the equivalent.

GER 3420 (GN 305) Speaking and Writing German. W, SS.
Credits: 4; Prereq: GN 202, or the equivalent.

GEW 3100 (GN 327) Masterpieces of German Literature 1. W.
Credits: 5; Prereq: GN 202, or the equivalent.
Study of representative texts from the Old High German period to Martin Opitz.

GEW 3101 (GN 328) Masterpieces of German Literature 2. S.
Credits: 5; Prereq: GN 202, or the equivalent.
Study of representative texts from the Classical Period to the present time.

GER 3500 (GN 330) The Impact of German Culture. F.
Credits: 4; Prereq: GN 202
Introduction to German culture, with emphasis on the development of the Humanities.

GER 3501 (GN 331) The Contemporary German. W.
Credits: 4; Prereq: GN 202.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

GER 4400 (GN 406) Advanced Speaking and Writing. F.
Credits: 4; Prereq.: GN 305, or the equivalent.

GER 4840 (GN 412) The Evolution of the German Language. W.
Credits: 4; Prereq.: GN 304-305 and GN 327-328, or the equivalent.

GEW 4332 (GN 413) German Love and Death Poetry. S.
Credits: 4; Prereq.: GN 304-305 and GN 327-328 or the equivalent.

GEW 4513 (GN 428) Reason Versus Genius. F.
Credits: 4; Prereq.: GN 304-305 and GN 327-328, or the equivalent.

GEW 4530 (GN 429) The Golden Age.
Credits: 4; Prereq.: GN 304-305 and GN 327-328, or the equivalent.

GEW 4542 (GN 430) Romantics and Revolutionaries.
Credits: 4; Prereq.: GN 304-305 and GN 327-328, or the equivalent.

(GN 440) Trends in the German Theater. W, SS.
Credits: 4; Prereq.: GN 304-305 and GN 327-328, or the equivalent.

GEW 4554 (GN 445) German Literature and Social Change. W.
Credits: 4; Prereq.: GN 304-305 and GN 327-328, or the equivalent.

GEW 4400 (GN 455) Minstrels and Storytellers. S.
Credits: 4; Prereq.: Departmental approval.

GEW 4730 (GN 460) Kafka, Hesse, Brecht and Grass. F.
Credits: 4; Maximum 16 credits. Prereq.: 327-328, or the equivalent.

GEW 4820 (GN 480) Foundations of Literary Study. F.
Credits: 5; Prereq.: GN 304-305 and GN 327-328, or the equivalent.

GEW 4750 (GN 490) Women in German Literature. F.
Credits: 4; Prereq.: GN 304-305 and GN 327-328, or the equivalent.
A variable content course, focusing on the figure of women in literature, female writers, and female critics.

GEW 4906 (GN 496) Individual Work. F, W, S, SS.
Credits: 1 to 5
Available only by special arrangement. May be repeated with change of content up to a maximum of 16 credits.

GRADUATE COURSES

GEW 6900 (GN 600) Special Study in Germanic Languages and Literature.
Credits: 5; maximum of 16 credits.

GER 6050 (GN 602) Beginning German for Graduate Students 1. F.S.
Credits: 4††

GER 6051 (GN 603) Beginning German for Graduate Students 2. W.SS.
Credits: 4

GEW 6600 (GN 604) The Genius of Goethe. S.
Credits: 5

GER 6405 (GN 606) Advanced Speaking and Writing Exercises.
Credits: 4

GER 6845 (GN 612) The Evolution of the German Language. W.
Credits: 4

GEW 6335 (GN 613) Studies in German Poetry. S.
Credits: 4

GER 6841 (GN 620) The Bible in Gothic.
Credits: 5

ICW 6400 (GN 624) The Viking Sagas. S.
Credits: 4

ICW 6401 (GN 625) Readings in Sagas and Scaldic Poetry.
Credits: 4

GEW 6517 (GN 628) Eighteenth Century German Literature. F.
Credits: 4

GEW 6535 (GN 629) Studies in German Classical Literature.
Credits: 4

GEW 6545 (GN 630) Studies in Romantic or Post-Romantic Literature.
Credits: 4

GEW 6305 (GN 640) Studies in German Drama and Theater. W.SS.
Credits: 4

GEW 6558 (GN 645) Nineteenth Century German Literature. W.
Credits: 4

GEW 6938 (GN 650) Seminar in Germanic Studies.
Credits: 5
Rotating topics.

GEW 6401 (GN 651) Middle High German Love Poetry.
Credits: 4

GEW 6425 (GN 652) Fate, Fortune and Frivolity. W.
Credits: 5

GEW 6488 (GN 653) Post-War Literature: East and West.
Credits: 5

(GN 655) Introduction to Middle High German Literature
Credits: 4

GEW 6730 (GN 660) Studies in Modern German Literature. F.
Credits: 4

(GN 680) Foundations of German Literary Criticism.
Credits: 5; max. of 15.

(GN 690) The Contribution of Women in German Literary History.
Credits: 4

GEW 6906 (GN 696) Individual Work.
Credits: 1 to 5; maximum of 16 credits.

GEW 6915 (GN 697) Supervised Research.
Credits: 1 to 5††

GER 6940 (GN 698) Supervised Teaching.
Credits: 1 to 5††

GEW 6971 (GN 699) Master's Research.
Credits: 1 to 15††

Polish

POL 1120 (POL 133) Beginning Polish 1. F.
Credits: 5

POL 1121 (POL 134) Beginning Polish 2. W.
Credits: 5; Prereq: POL 133 (grade of C or better or S), or the equivalent.

POL 1122 (POL 135) Beginning Polish 3. S.
Credits: 5; Prereq: POL 134 (grade of C or better or S), or the equivalent.

(POL 136) Intensive Polish. S, SS.
Credits: 10 to 15
The equivalent of Polish, 133-134-135. Beginning Polish sequence.

(POL 202) Intermediate Polish. F, SS.
Credits: 1 to 15

(POL 427) Polish Literature.
Credits: 5
With change of content may be repeated for credit twice.

POL 4905 (POL 496) Individual Work. F, W, S, SS.
Credits: 1 to 15

Russian

RUS 1120 (RSN 133) Beginning Russian 1. F.
Credits: 5

RUS 1121 (RSN 134) Beginning Russian 2. W.
Credits: 5; Prereq: RSN 133 (grade of C or better or S), or the equivalent.

RUS 1122 (RSN 135) Beginning Russian 3. S.
Credits: 5; Prereq: RSN 134 (grade of C or better or S), or the equivalent.

RUS 2200 (RSN 202) Second Year Russian. F.
Credits: 4: Prereq: RSN 135 or the equivalent.

RUT 2110 (RSN 250) The Russian Experience: Literature in Translation. F.
Credits: 4; Prereq: None. Not for major credits.

RUS 3240 (RSN 304) Oral Practice in Russian. W.
Credits: 4: Prereq: RSN 202 or the equivalent.

RUS 4300 (RSN 406) Advanced Grammar and Composition. S.
Credits: 4; Prereq: RSN 304 or the equivalent.

RUS 4840 (RSN 412) History of the Russian Language. S.
Credits: 4; Prereq: RSN 202 or the equivalent.

RUS 4700 (RSN 413) Structure of the Russian Language. F.
Credits: 4; Prereq: RSN 304 or the equivalent.

(RSN 427) Introduction to Russian Literature 1.
Credits: 5; Prereq: RSN 202 or the equivalent.
A survey of Russian literary history from Von Vizin through Turgenyev, Dostoyevsky and early Tolstoy.

(RSN 428) Introduction to Russian Literature 2.
Credits: 5; Prereq: RSN 202 or the equivalent.
A survey of Russian literary history from Tolstoy to the present day.

RUS 4905 (RSN 496) Individual Work. F, W, S, SS.
Credits: 1 to 4; Prereq: RSN 202, or the equivalent and permission of the professor in charge.
With change of content, may be repeated for additional credit.

GRADUATE COURSES

RUS 5301 (RSN 506) Grammar and Composition Exercises.
Credits: 4

(RSN 512) The Development of the Russian Language.
Credits: 4

(RSN 513) Russian Syntax and Style.
Credits: 4

RUW 5120 (RSN 527) Survey of Russian Literary History.
Credits: 5

RUW 5121 (RSN 528) Survey of Modern Russian Literature.
Credits: 5

RUW 5906 (RSN 596) Individual Work.
Credits: 1 to 4

ROMANCE LANGUAGES AND LITERATURES

INSTRUCTIONAL STAFF 1976-77
Conner, J.W., Chairman; Allen, J.J.; Baker, S.R.; Bonneville, D.A.; Cailler, B.; Casagrande, J.; Coulson, G.B.; Davis, W.M.; DerHoussikian, H.; Diller, G.T.; Gay-Crosier, R.; Hower, A.; Ibarra F.; Lasley, M.M.; Monroe, J; Ramirez, A.; Rice, M.; Schulman, I.A.; Smith, A.B.

An undergraduate major is offered in French and Spanish. The major consists of 36 quarter hours above the second-year college level, plus a subsidiary requirement of LIN 290 or FLE 351. Students intending to major in a foreign language should consult a departmental adviser at the earliest opportunity.

To graduate with departmental honors a student must attain a 3.5 average in his major (excluding courses below the 300-level), and complete in his Senior year some special project approved as honors work.

Students who plan to continue the study of a language which they began in high school or another college are required to take a placement test before registering.

(RLL 600) Special Study in Romance Languages and Literatures
Credits: 3 to 5.

FOL 6732 (RLL 619) Introduction to Romance Linguistics.
Credits: 5

French

FRE 1110 (FH 101) Beginning French 1. F, W, S, SS.
Credits: 5
Emphasis on the fundamentals of French grammar. Course work includes drill in pronunciation and simple dialogs, vocabulary building and reading. This is the foundation course in a basic sequence. Prospective majors and students who wish to develop a broad competence in French should continue with FH 134 and 135 which emphasize the oral-aural approach; those who wish to concentrate on developing reading proficiency should continue with 104 and 105.

FRE 1111 (FH 104) Beginning French (Alternate) 2. F, W, S, SS.
Credits: 5; Prereq: FH 101 (grade of C or better, or S) or the equivalent.

FRE 1112 (FH 105) Beginning French (Alternate) 3. F, W, S, SS.
Credits: 5; Prereq: FH 104 (grade of C or better, or S) or the equivalent.

FRE 1121 (FH 134) Beginning French 2. F, W, S, SS.
Credits: 5; Prereq: FH 101 (grade of C or better, or S) or the equivalent.

FRE 1122 (FH 135) Beginning French 3. F, W, S, SS.
Credits: 5; Prereq: FH 134 (grade of C or better, or S) or the equivalent.

FRE 2200 (FH 202) Intermediate French. F, W, S, SS.
Credits: 4; Prereq: FH 135; or FH 105 with permission of department.

FRE 2240 (FH 204) Oral Practice in French. F, W, S.
Credits: 4; Prereq: FH 202, or the equivalent.

FRT 2276 (FH 250) The French Novel of 19th and 20th Centuries in English Translation. SS.
Credits: 4; Prereq: None. Not for major credit.
Analysis and interpretation of selected novels by authors such as Balzac, Stendhal, Flaubert, Zola, Proust, Gide, Malraux, Camus, etc.

FRT 2301 (FH 251) French Classical Drama in English Translation. S.
Credits: 4; Prereq: None. Not for major credit.
Analysis and interpretation of selected plays by authors such as Racine, Corneille, Moliere, etc.

FRE 3420 (FH 305) Grammar and Composition 1. F, W, S.
Credits: 4; Prereq: FH 202, or the equivalent.

FRE 3421 (FH 306) Grammar and Composition 2. F, W, S.
Credits: 4; Prereq: FH 305, or the equivalent.

FRW 3100 (FH 327) Introduction to French Literature 1. W.
Credits: 3; Prereq: FH 202, or the equivalent.
Study of representative texts from the Middle Ages to the Classical period.

FRW 3101 (FH 328) Introduction to French Literature 2. F.
Credits: 3; Prereq: FH 202, or the equivalent.
Study of representative texts from the Classical period to the Romantics.

FRW 3102 (FH 329) Introduction to French Literature 3. S.
Credits: 3; Prereq: FH 202, or the equivalent.
Study of representative text from the Romantics to the present day.

FRE 3500 (FH 330) French Civilization. W, SS.
Credits: 4; Prereq: FH 202, or the equivalent.
Introduction to French culture, with emphasis on contemporary institutions.

FRE 4783 (FH 404) French Phonetics. F.
Credits: 4; Prereq: FH 305-306 and an introductory course in linguistics.

FRE 4422 (FH 405) Composition and Syntax. W, SS.
Credits: 5; Prereq: FH 305-306 and FH 327-329, or the equivalent.

FRE 4850 (FH 406) Introduction to the Structure of French. S.
Credits: 4; Prereq: FH 305-306 and an introductory course in linguistics.

FRW 4410 (FH 417) French Medieval Literature. F.
Credits: 4; Prereq: FH 305-306 and FH 27-329, or the equivalent.

FRW 4420 (FH 419) Sixteenth-Century French Literature.
Credits: 4; Prereq: FH 305-306 and FH 327-329, or the equivalent.
Study of literary and intellectual currents of the period. Selected readings from Marot, Sceve, DuBellay, Ronsard, D'Aubigne, Rabelais, Marguerite de Navarre, Montaigne.

FRW 4216 (FH 421) Readings in Seventeenth-Century French Prose. W.
Credits: 4; Prereq: FH 305-306 and FH 327-329, or the equivalent.

††Grading is on a S-U basis only.

FRW 4300 (FH 423) Readings in Seventeenth-Century French Drama.
Credits: 4; Prereq: FH 305-306 and FH 327-329, or the equivalent.

FRW 4710 (FH 430) Introduction to the Philosophic Movement. S.
Credits: 4; Prereq: FH 305-306 and FH 327-329, or the equivalent.
Readings from representative authors of the eighteenth-century, particularly Voltaire, Diderot, and Rousseau.

FRW 4275 (FH 431) Readings in the Novel of the 18th Century.
Credits: 4; Prereq: FH 305-306 and FH 327-329, or the equivalent.

FRW 4535 (FH 442) Survey of French Romantic Literature. F.
Credits: 4; Prereq: FH 305-306 and FH 327-329, or the equivalent.
Study of representative texts, with emphasis on work of Lamartine, Vigny, Hugo, and Musset.

FRW 4555 (FH 445) Introduction to Realism and Naturalism. S.
Credits: 4; Prereq: FH 305-306 and FH 327-329, or the equivalent.
The novel and its development from Stendhal to Zola.

FRW 4350 (FH 450) Survey of Modern French Poetry.
Credits: 4; Prereq: FH 305-306 and FH 327-329, or the equivalent.
The development of French poetry from Baudelaire to the present.

FRW 4480 (FH 460) Readings in Twentieth-Century French Literature. F.
Credits: 4; Prereq: FH 305-306 and FH 327-329, or the equivalent.

FRW 4770 (FH 480) Black African Literature of French Expression. S.
Credits: 4
An introduction to the works of modern Black writers from Africa and the Caribbean, notably Cesaire, Senghor, Damas, Roumain, B. Diop, Beti, Oyono, Laye.

FRE 4905 (FH 496) Individual Work. F, W, S, SS.
Credits: 2 to 5; Prereq: Permission of the department.

GRADUATE COURSES

FRE 5423 (FH 505) Advanced French Composition.
Credits: 5

FRE 5851 (FH 506) The Structure of French.
Credits: 4

FRE 5840 (FH 512) History of the French Language.
Credits: 4

FRW 5556 (FH 545) Realism and Naturalism.
Credits: 4

FRW 5481 (FH 560) Twentieth-Century French Literature.
Credits: 4

FRW 6900 (FH 600) Special Study in French Literature.
Credits: 4

FRE 6050 (FH 602) Beginning French for Graduate Students 1.
Credits: 4††

FRE 6051 (FH 603) Beginning French for Graduate Students 2.
Credits: 4

††Grading is on a S-U basis only.

FRE 6784 (FH 604) Advanced French Phonetics.
Credits: 4

FRE 6730 (FH 606) Special Study in French Linguistics.
Credits: 4

FRW 6805 (FH 610) Introduction to Graduate Study and Research.
Credits: 4

FRW 6825 (FH 615) Literary Criticism in France.
Credits: 4

FRW 6415 (FH 618) Old French Literature 1.
Credits: 4

FRW 6416 (FH 619) Old French Literature 2.
Credits: 4

FRW 6340 (FH 620) French Poetry of the Renaissance.
Credits: 4

FRW 6215 (FH 621) French Prose of the Renaissance.
Credits: 4

FRW 6217 (FH 622) 17th Century French Prose.
Credits: 4

FRW 6311 (FH 623) 17th Century French Drama.
Credits: 4

FRW 6711 (FH 630) The Philosophic Movement.
Credits: 4

FRW 6276 (FH 631) The Novel of the 18th Century.
Credits: 4

FRW 6510 (FH 641) Baroque and Preclassicism.
Credits: 4

FRW 6536 (FH 642) The Romantic Period.
Credits: 4

FRW 6318 (FH 645) French Classical Comedy.
Credits: 4

FRW 6351 (FH 650) Modern French Poetry.
Credits: 4

FRW 6560 (FH 660) The French Symbolist Movement.
Credits: 4

FRW 6288 (FH 670) Contemporary French Novel.
Credits: 4

FRW 6328 (FH 671) Contemporary French Theater.
Credits: 4

FRW 6755 (FH 680) Twentieth-Century Caribbean and West African Literature of French Expression.
Credits: 4

FRW 6906 (FH 696) Individual Work.
Credits: 2 to 5

FRW 6910 (FH 697) Supervised Research.
Credits: 1 to 5††

FRE 6940 (FH 698) Supervised Teaching.
Credits: 1 to 5††

FRW 6971 (FH 699) Master's Research.
Credits: 1 to 15††

FRW 7980 (FH 799) Doctoral Research.
Credits: 1 to 15††

Italian

ITA 1120 (IN 133) Beginning Italian 1. F.
Credits: 5

ITA 1121 (IN 134) Beginning Italian 2. W.
Credits: 5; Prereq: IN 133 (grade of C or better, or 5) or equivalent.

ITA 1122 (IN 135) Beginning Italian 3. S.
Credits: 5; Prereq: IN 134 (grade of C or better, or 5) or equivalent.

ITA 3400 (IN 305) Composition and Conversation.
Credits: 4; Prereq: IN 135, or the equivalent.

ITW 3100 (IN 327) Introduction to Italian Literature 1.
Credits: 4; Prereq: IN 135 or the equivalent.
The major Italian authors from the Middle Ages through the Early Renaissance.

ITW 3101 (IN 328) Introduction to Italian Literature 2.
Credits: 4; Prereq: IN 135 or the equivalent.
The major Italian authors from the Renaissance through the 18th century.

ITW 3102 (IN 329) Introduction to Italian Literature. 3.
Credits: 4; Prereq: IN 135 or the equivalent.
The major Italian authors of the 19th and 20th centuries.

ITA 4905 (IN 496) Individual Work.
Credits: 2 to 5

Portuguese

POR 1120 (PE 133) Beginning Portuguese 1. F.
Credits: 5
This sequence PE 133-134-135 is a basic course in Portuguese stressing the language as spoken in Brazil.

POR 1121 (PE 134) Beginning Portuguese 2. W.
Credits: 5; Prereq: PE 133 (grade of C or better, or 5) or the equivalent.

POR 1122 (PE 135) Beginning Portuguese 3. S.
Credits: 5; Prereq: PE 134 (grade of C or better, or 5) or the equivalent.

PRT 2490 (PE 250) Modern Brazilian Literature in Translation. S.
Credits: 4; Prereq: None.
Readings of outstanding Brazilian novels, short stories, and plays. Designed especially for students with little or no knowledge of Portuguese who desire to study Brazilian life, character, and culture as portrayed in the writings of some of Brazil's greatest authors.

POR 3130 (PE 301.) Introductory Portuguese (accelerated). W.SS.
Credits: 5; Prereq: 5H 202 or FH 202 or the equivalent.

POR 3240 (PE 304) Oral Practice in Portuguese. W.
Credits: 4; Prereq: PE 135 or the equivalent.

POR 3241 (PE 305) Composition and Conversation. F.
Credits: 4; Prereq: PE 135, or the equivalent.

POW 3120 (PE 327) Introduction to Portuguese Literature. F.
Credits: 4; Prereq: PE 135, or permission of the department.
A study of major Portuguese writers from the medieval to the modern period.

POW 3130 (PE 328) Introduction to Brazilian Literature 1. W.
Credits: 3; Prereq: PE 135, or the permission of the department.
A study of Brazilian authors of the 19th and 20th centuries.

POW 3131 (PE 329) Introduction to Brazilian Literature 2. S.
Credits: 3; Prereq: PE 135, or permission of the department.
A study of major contemporary writers.

POR 4770 (PE 404) Portuguese Phonetics and Phonology. S.
Credits: 4; Prereq: PE 135 and an introductory course in linguistics.

POW 4700 (PE 451) Machado De Assis and His Contemporaries. W.
Credits: 4

POW 4710 (PE 452) Eca De Queiros and His Contemporaries. S.
Credits: 4

POW 4905 (PE 496) Individual Work.
Credits: 2 to 5

GRADUATE COURSES

POW 6930 (PE 600) Special Study in Brazilian or Portuguese Literature.
Credits: 3 to 5

POW 6275 (PE 651) The 19th-Century Brazilian Novel.
Credits: 4

POW 6276 (PE 652) The 20th-Century Brazilian Novel.
Credits: 4

POW 6385 (PE 653) Brazilian Poetry
Credits: 4

POW 6386 (PE 654) Brazilian Drama
Credits: 4

POW 6400 (PE 660) Medieval and Renaissance Portuguese Literature.
Credits: 4

Spanish

SPN 1110 (SH 103) Beginning Spanish (Alternate) 1. F, W, S, SS.
Credits: 5
SH 103-104-105 is the basic sequence designed for students who wish to develop the ability to understand written and spoken Spanish. Those interested in acquiring an active command of the language should take the 133-134-135 sequence.

SPN 1111 (SH 104) Beginning Spanish (Alternate) 2. F, W, S, SS.
Credits: 5; Prereq: SH 103 (grade of C or better, or S) or the equivalent.

SPN 1112 (SH 105) Beginning Spanish (Alternate) 3. F, W, S, SS.
Credits: 5; Prereq: SH 104 (grade of C or better, or S) or the equivalent.

SPN 1100 (SH 133) Beginning Spanish 1. F, W, S, SS.
Credits: 5
SH 133-134-135 is the basic sequence intended for students who wish to develop a broad competence in Spanish. It emphasizes the oral-aural aspects of the language and requires extensive use of the language laboratory. Students who mainly wish to develop a skill in understanding written and spoken Spanish should take the 103-104-105 sequence.

SPN 1121 (SH 134) Beginning Spanish 2. F, W, S, SS.
Credits: 5; Prereq: SH 133 (grade of C or better, or S) or the equivalent.

SPN 1122 (SH 135) Beginning Spanish 3. F, W, S, SS.
Credits: 5; Prereq: SH 134 (grade of C or better, or S) or the equivalent.

SPN 2200 (SH 202) Intermediate Spanish. F, W, S, SS.
Credits: 4; Prereq: SH 135; or SH 105 with permission of department.

SPN 2240 (SH 204) Oral Practice in Spanish. F, W, S.
Credits: 4; Prereq: SH 202, or the equivalent.

SPT 2601 (SH 250) Don Quixote in English Translation. W.
Credits: 4; Prereq: None. Not for major credit.
Analysis and interpretation of Cervantes' masterpiece with particular emphasis upon place of *Don Quixote* in Spanish literature and in the development of the modern novel.

SPT 2231 (SH 251) The Modern Spanish-American Novel in English Translation. SS.
Credits: 4; Prereq: None. Not for major credit.
Readings of outstanding Spanish-American novels. Designed especially for students with little or no knowledge of Spanish who desire to study Spanish American life, character and culture as portrayed in the writings of the most important novelists.

SPN 3300 (SH 305) Grammar and Composition 1. F, W, S.
Credits: 4; Prereq: SH 202, or the equivalent.

SPN 3301 (SH 306) Grammar and Composition 2. F, W, S.
Credits: 4; Prereq: SH 305, or the equivalent.

SPW 3100 (SH 327) Introduction to Spanish Literature 1. F, S.
Credits: 3; Prereq: SH 202, or the equivalent.
Study of representative texts from early Middle Ages to the *Celestina*.

SPW 3101 (SH 328) Introduction to Spanish Literature 2. F, W.
Credits: 3; Prereq: SH 202, or the equivalent.
Study of representative texts from the Renaissance through the Golden Age.

SPW 3102 (SH 329) Introduction to Spanish Literature 3. W. S.
Credits: 3; Prereq: SH 202, or the equivalent.
Study of representative texts from the Golden Age to the present day.

SPN 3500 (SH 330) Spanish and Spanish-American Civilization. W, SS.
Credits: 4; Prereq: SH 202 or the equivalent.
Introduction to the peoples, institutions, and culture of the Spanish and Spanish-American World.

SPN 4780 (SH 404) Spanish Phonetics. F, W.
Credits: 4; Prereq: SH 305-306 and an introductory course in linguistics.

SPN 4420 (SH 405) Composition and Syntax. F, S.
Credits: 5; Prereq: SH 305-306 and SH 327-329.

SPN 4860 (SH 406) Introduction to the Structure of Spanish. W.
Credits: 4; Prereq: SH 305-306 and an introductory course in linguistics.

SPN 4840 (SH 412) Introduction to the History of the Spanish Language. S.
Credits: 4; Prereq: SH 305-306 and an introductory course in linguistics.

SPW 4335 (SH 413) Spanish Lyric Poetry. SS.
Credits: 4; Prereq: SH 305-306 and SH 327-329.

SPW 4300 (SH 421) Readings in Spanish Drama of the Golden Age. F.
Credits: 4; Prereq: SH 305-306 and SH 327-329.

SPW 4605 (SH 422) Don Quixote. W.
Credits: 4; Prereq: SH 305-306 and SH 327-329.

SPW 4215 (SH 423) Readings in Spanish Prose Fiction of the Golden Age.
Credits: 4; Prereq: SH 305-306 and SH 327-329.

SPW 4315 (SH 431) Readings in Spanish Drama of the 19th Century.
Credits: 4; Prereq: SH 305-306 and SH 327-329.

SPW 4265 (SH 432) Readings in Spanish Novel of the 19th Century.
Credits: 4; Prereq: SH 305-306 and SH 327-329.

SPW 4725 (SH 441) Introduction to the Generation of '98.
Credits: 4; Prereq: SH 305-306 and SH 327-329.

SPW 4480 (SH 450) Readings in Contemporary Spanish Literature. F.
Credits: 4; Prereq: SH 305-306 and SH 327-329.
A study of selected works of the major writers of the last forty years, including Lorca, Cela, and Cernuda.

SPW 4130 (SH 475) Readings in Spanish-American Literature 1. F.
Credits: 4; Prereq: SH 305 and SH 327-329.
A study of selected works from the colonial period through Romanticism.

SPW 4131 (SH 476) Readings in Spanish-American Literature 2. W.
Credits: 4; Prereq: SH 305-306 and SH 327-329.
A study of selected works fromm Romanticism through Modernism.

SPW 4132 (SH 477) Readings in Spanish-American Literature 3. S.
Credits: 4; Prereq: SH 305-306 and SH 327-329.
A study of selected works from Vanguardism to present day.

(SH 479) Readings in Early Spanish-American Novel. SS.
Credits: 4; Prereq: SH 305-306 and SH 327-329.

(SH 496) Individual Work.
Credits: 2 to 5; Prereq: Permission of the department.

GRADUATE COURSES

SPN 5310 (SH 505) Advanced Composition and Syntax.
Credits: 5

SPN 5851 (SH 506) The Structure of Spanish.
Credits: 4

SPW 5135 (SH 575) Introduction to Spanish-American Literature 1.
Credits: 4

SPW 5136 (SH 576) Introduction to Spanish-American Literature 2.
Credits: 4

SPW 5110 (SH 577) Introduction to Spanish-American Literature 3.
Credits: 4

SPW 6902 (SH 600) Special Study in Spanish or Spanish-American Literature.
Credits: 4

SPN 6050 (SH 602) Beginning Spanish for Graduate Students I.
Credits: 4††

SPN 6051 (SH 603) Beginning Spanish for Graduate Students II.
Credits: 4

SPN 6781 (SH 604) Advanced Spanish Phonetics.
Credits: 4

SPN 6730 (SH 606) Special Study in Spanish Linguistics.
Credits: 4

SPW 6806 (SH 610) Introduction to Graduate Study and Research.
Credits: 4

SPN 6843 (SH 612) History of the Spanish Language
Credits: 4

SPW 6400 (SH 618) Old Spanish Literature 1.
Credits: 4

SPW 6401 (SH 619) Old Spanish Literature 2.
Credits: 4

††Grading is on a S-U basis only.

Descriptions

SPW 6313 (SH 621) Spanish Drama of the Golden Age.
Credits: 4

SPW 6216 (SH 623) Spanish Prose Fiction of the Golden Age.
Credits: 4

SPW 6337 (SH 625) Spanish Poetry of the Golden Age.
Credits: 4

SPW 6319 (SH 631) Spanish Drama of the 19th Century.
Credits: 4

SPW 6269 (SH 632) Spanish Novel of the 19th Century.
Credits: 4

SPW 6705 (SH 635) Lope De Vega and His Contemporaries.
Credits: 4

SPW 6600 (SH 637) Cervantes.
Credits: 4

SPW 6244 (SH 640) The Picaresque Novel.
Credits: 4

SPW 6729 (SH 641) The Generation of '98.
Credits: 4

SPW 6481 (SH 650) Contemporary Spanish Literature.
Credits: 4

SPW 6765 (SH 655) Argentine Literature.
Credits: 4

SPW 6575 (SH 660) The Modernist Movement.
Credits: 4

SPW 6366 (SH 665) The Spanish-American Essay.
Credits: 4

SPW 6285 (SH 667) Contemporary Spanish-American Novel 1.
Credits: 4

SPW 6286 (SH 668) Contemporary Spanish-American Novel 2.
Credits: 4

SPW 6237 (SH 679) The Spanish-American Novel from Origins to Criollismo.
Credits: 4

SPW 6270 (SH 685) Contemporary Spanish Novel.
Credits: 4

SPW 6325 (SH 686) Contemporary Spanish Theater.
Credits: 4

SPW 6908 (SH 696) Individual Work.
Credits: 2 to 5

SPW 6910 (SH 697) Supervised Research.
Credits: 1 to 5††

SPN 6940 (SH 698) Supervised Teaching.
Credits: 1 to 5††

SPW 6971 (SH 699) Master's Research.
Credits: 1 to 15††

SPW 7980 (SH 799) Doctoral Research.
Credits: 1 to 15††

SWAHILI**

INSTRUCTIONAL STAFF 1976-77
Der-Houssikian, H.; Kotey, P.

SWA 1120 (SI 133) Beginning Swahili 1. F.
Credits: 5

SWA 1121 (SI 134) Beginning Swahili 2. W.
Credits: 5; Prereq: SI 133 (grade of C or better, or S) or the equivalent.

SWA 1122 (SI 135) Beginning Swahili 3. S.
Credits: 5; Prereq: SI 134 (grade of C or better, or S) or the equivalent.

SWA 3240 (SI 304) Spoken Swahili. W.
Credits: 4; Prereq: SI 135 or the equivalent.
Intensive training in the pronunciation, idiom and style of contemporary Swahili.

SWT 3110 (SI 338) A Survey of Swahili Literature in Translation.
Credits: 4

SWA 4850 (SI 406) The Structure of Swahili.
Credits: 4; Prereq: FLE 301 or the equivalent.

††Grading is on a S-U basis only.
**Administered by Department of Romance Languages and Literatures.

FORESTRY, RANGE ECOSYSTEM MANAGEMENT, WILDLIFE ECOLOGY, RESOURCE CONSERVATION

School of Forest Resources and Conservation

INSTRUCTIONAL STAFF 1976-77

Gray, J. L., Director; Labisky, R. F., Assistant Director; Smith, W. H., Assistant Director; Arvanitis, L. G.; Blakeslee, G. M.; Crowe, D. R.; Ewel, K. C.; Forrester, D. J.; Goddard, R. E.; Harris, L. D.; Hirth, D. H.; Hollis, C. A.; Huffman, J. B.; Hunter, D. H.; Jensen, A. S.; Marion, W. R.; Miller, J. W., Jr.; Post, D. M.; Rockwood, D. L.; Schmidt, R. A.; Seaman, W., Jr.; Shireman, J. V.; Sullivan, E. T.; White, L. D.

FOR 2003 (FRC 220) Introduction to Forestry. F, W, S, SS.
Credits: 3
Fundamental underlying principles of forestry; career survey.

FOR 2010 (FRC 250) The Ecosystem—Man-Resource Relationsips. F. W, S.
Credits: 4;
Application of ecological principles and the ecosystem concept to natural resources management. An interdisciplinary consideration of environmental problems and issues pertaining to specific case ecosystems.

PLP 3002 (FRC 301) Lectures in Basic Plant Pathology. W.
Credits: 2; (Ident with PT 301) Prereq: BTY 181 or BTY 203.
Principles of plant disease. Reasons for many victories and a few defeats in the continuing war on diseases in plants.

FOR 3050 (FRC 302) Introduction to Natural Ecosystems. F, S.
Credits: 6; Prereq: Completion of the equivalent of one semester each of botany and zoology or two semesters of biology, and SFRC classification or permission of the instructor.
Field introduction to forest ecosystems — their structure, pattern, diversity, function, limits, and dynamics.

PLP 3004 L (FRC 313) Laboratory in Forest Pathology. W.
Credits: 3; (Ident with PT 313) Prereq: or coreq; FRC 301 (PT 301).
Diagnoses, etiology, epidemiology and control of important diseases of forest trees.

FOR 3140 (FRC 317) Wood Anatomy and Identification. W.
Credits: 4; Prereq: BTY 203 or equivalent.
The anatomy of wood; identification and properties of important commercial wood species in relation to their utilization.

FOR 3710 (FRC 318) Forest Products Utilization. F.
Credits: 3; Prereq: FRC 317.
Descriptions of the wide array of products derived from forests; origin and nature of raw materials; technologies and manufacturing processes.

FOR 3732 (FRC 320) Logging and Milling. S.
Credits: 4; Prereq: FRC 317.
Utilization of major forest products; logging engineering; transportation; equipment; costs; lumber manufacture; plant; milling practice; merchandising of products.

FOR 3462 (FRC 321) Introduction to Forest Surveying. F, S.
Credits: 5; Prereq.: MS 102, FRC 322.
Classroom and field training in forest surveying as related to boundaries, drainage and forest roads; surveying principles required for mensuration and forest management.

FOR 3461 (FRC 322) Forest Drawing. W, SS.
Credits: 1
Lettering, freehand and mechanical; use of drawing instruments; preparation of maps and charts as used in forestry practices.

FOR 3120 (FRC 326) —Dendrology. F, S.
Credits: 4; Prereq: BTY 203.
Characteristics of the major tree families, general and forest types of Florida. Includes studies in systematic botany and drill in use of botanical keys,

FOR 3432 L (FRC 328) Forest Resources Measurement Laboratory. F, W.
Credits: 3
Should be taken by forest management students concurrently with FRC 382. Practice of measuring forest resources.

FOR 3433 (FRC 346) Forest Photogrammetry. W, S.
Credits: 4; Prereq: MS 102.
Principles of aerial photogrammetry applicable to forest land management; practical experience in the use of photo interpretation and mapping equipment.

WIS 3401 (FRC 353) Principles of Wildlife Ecology. S.
Credits: 4; Prereq: ZY 202 or equivalent.
Wildlife as a natural resource, its management, conservation and ecology, with particular emphasis on the interrelationships between man, wildlife resources, and their common environments.

WIS 3460 (FRC 354) Techniques in Wildlife Ecology. F.
Credits: 4; Prereq: FRC 353.
Field and laboratory techniques essential to the study and management of wildlife populations.

WIS 3200 (FRC 355) Introduction to Fishery Biology. W.
Credits: 4
Identification of fishes; their distribution and habitat requirements. Emphasis is given to Florida's freshwater aquatic resources and their management through field experience.

FOR 3123 (FRC 360) Range Plants. F.
Credits: 4; Prereq: BTY 181 or BTY 203.
Identification of range grasses, forbs, and shrubs; their distribution and habitat requirements, growth characteristics, economic importance, successional status, and response to utilization and management.

FOR 3011 (FRC 381) Biological Principles of Natural Resources Management. F, S.
Credits: 3; Prereq: Completion of the equivalent of one semester each of botany and zoology or two semesters of biology, and SFRC classification or permission of the instructor.
The application of biological principles to the management of forest eco-systems for the optimization of wood fiber, wildlife, grassland, wa-

ter and recreation resources. A consideration of the important biological principles which drive and restrain the forest ecosystem and the effect of man's manipulation of the factors.

FOR 3421 (FRC 382) Quantification in Natural Resources Management. F, W.
Credits: 5; Prereq: MS 302, STA 320 or equivalent.
Elementary measurement and analysis of forest resources including wood, water, forage, wildlife and recreation potential. Both parametric and non-parametric statistical techniques are stressed in lectures and laboratory exercises.

FOR 3650 (FRC 383) Decision Making in Natural Resources Management. F.
Credits: 3; Prereq: MS 302, STA 320 or equivalent.
An analysis of components in the decision process emphasizing the use of quantitative, analytical and synthesis techniques available to renewable resource managers. Principles are interfaced with computer and other modern management techniques in a deliberative framework to provide a basis for efficient resource allocation.

FOR 3932 (FRC 396) Individual Study. F, W, S, SS.
Credits: 1 to 6; May be repeated with change of topic up to a maximum of 9 credits. Prereq: Permission of the instructor.
Individual study of a selected topic related to forest resources and conservation as contracted for with the instructor at the start of the quarter.

FOR 4940 (FRC 400) Forestry and Wildlife Practicum. F, W, S, SS.
Credits: 1 to 3 ††; May be repeated with change of experience up to a maximum of 6 credits. Prereq: Permission of the assigned adviser.
Individual off-campus internship with selected enterprise or public agency, following a prearranged work program agreeable to both employer and adviser. FRC 496 or similar problem course may be scheduled concurrently.

FOR 4162 (FRC 403) Forest Ecology-Silviculture. F.
Credits: 5; Prereq: FRC 302, 381, 382, SLS 330 or approval of instructor
Biological aspects of tree growth; environmental influences, forest regeneration; stand management; silvicultural planning.

FOR 4212 (FRC 406) Forest Fire Control and Use. W.
Credits: 3
Techniques of protecting forests from fire; forest fuels and factors affecting their inflammability; controlled fire in land use management.

FOR 4520 (FRC 409) Forest Finance. S.
Credits: 4; Prereq: FRC 420.
Forests as investments, interest rates, carrying charges, maturity, relation of intermediate to final and net incomes, and forest insurance.

FOR 4142 (FRC 411) Wood Structure and Properties. S.
Credits: 5; Prereq: BTY 203, CY 213, PS 212 or equivalents and approval of instructor.
Gross and microscopic structure of wood, methods of identification, elementary wood physics and chemistry in relation to properties and processing.

FOR 4931 (FRC 412) Seminar. F, W, S.
Credits: 1; May be repeated with change of content up to a maximum of 4 credits.
Current issues, policies, people relationships relative to forest resources conservation, use and development. Oral presentations and written reports required.

FOR 4030 (FRC 413) Forestry for Agricultural Majors. W, SS.
Credits: 4; Non-credit for forestry majors.
Principles and practice of forestry pertinent to the management of agricultural lands.

FOR 4740 (FRC 414) Wood Preservation. F.
Credits: 3; Prereq: FRC 317.
Decay, preservation, treating plants and apparatus, methods and costs, objects treated and results, fire proofing, painting and finishing woods.

FOR 4621 (FRC 416) Principles of Forest Management. W.
Credits: 4; Prereq: FRC 328 or approval of instructor.
Principles of forest management, forest organization, management plans, sub-division of forest areas, forest regulation, cutting cycles, normal forest.

FOR 4622 (FRC 419) Applied Forest Management. S.
Credits: 5; Prereq: FRC 416.
Working plans for stand regulation and measures for sustained yield; forest operation and administrative practices, with special emphasis on production analysis and control.

FOR 4541 (FRC 420) Forest Economics. F.
Credits: 4; Prereq: ES 202 or ES 205 or FRE 301.
The economics of forestry and the forest-product industries. Supply and demand from the viewpoint of the firm. The factors of production in forestry. The application of economic principles to specific problems of forestry.

FOR 4741 (FRC 421) Kiln and Air Drying of Lumber. W.
Credits: 4; Prereq: FRC 317.
Wood storage, stacking, air seasoning, kiln drying and schedules, temperature and moisture relations.

FOR 4464 (FRC 423) Forest Mapping, F, W.
Credits: 4; Prereq: FRC 321
Advanced work in forest mapping including: location of contour lines and topographic features, re-establishment of land lines, and layout for wood roads.

FOR 4431 (FRC 429) Forest Resources Measurement 2. F.
Credits: 4; Prereq: FRC 382 and FRC 328.
The development of sampling and experimental designs, regression analysis, volume table construction, growth and yield projections, continuous forest inventory and computer methods.

FOR 4455 (FRC 430) Advanced Forest Mensuration. W.
Credits: 5; Prereq: Approval of instructor.
Advanced forest sampling designs; inventory techniques and growth prediction methods including development and analysis of formulae.

WIS 4541 (FRC 434) Wildlife Resources of Upland Environments. S.
Credits: 4; Prereq: FRC 354 or approval of instructor.
The study of wildlife resources characteristic of upland areas with emphasis placed on the production of annual crops of wildlife for recreational and commercial purposes.

WIS 4443 (FRC 437) Waterfowl Ecology. W.
Credits: 5; Prereq: FRC 354 or approval of instructor.
The principles and problems concerned with the conservation and management of waterfowl populations.

FOR 4733 (FRC 447) Logging and Milling Practice. S.
Credits: 5; Prereq: Approval of instructor.
Care, use, and maintenance of logging and milling tools and equipment; logging and small sawmill operations.

FOR 4612 (FRC 450) Principles of Forest Recreation. F.
Credits: 3; Prereq: Senior standing or approval of instructor.
Implications of the increasing use of forests and wild lands for outdoor recreation, with special emphasis on the problems of multiple-use management.

FOR 4614 (FRC 451) Forest Management for Recreaton. W.
Credits: 3; Prereq: FRC 450 or approval of instructor.
Management of forests, wild lands and waters for outdoor recreational use, with particular attention to the planning and development of recreational facilities for such areas.

WIS 4220 (FRC 455) Fishery Science, W.
Credits: 4; Prereq: ZY 306, 307; STA 320; BTY 301.
Presentation of the basic activities of fishery science, including an overview of the problems to which today's resource managers are seeking answers. The methods and techniques available to fishery scientists will be investigated.

FOR 4151 (FRC 460) Range Ecology. W.
Credits: 5; Prereq: FRC 360 or approval of instructor.
Interrelationships within and between components of range ecosystems with emphasis on energy production and consumption and ecological concepts pertaining to management.

FOR 4624 (FRC 461) Range Ecosystem Management. F.
Credits: 5; Prereq: FRC 460 or approval of instructor.
Principles of managing range ecosystems for their sustained or increased benefits to mankind, including livestock forage, wildlife, water, productive soils, outdoor recreation, and environmental quality.

FOR 4640 (FRC 462) Range Ecosystem Planning. W.
Credits: 4; Prereq: FRC 461.
Range ecosystem inventory, analysis, and development of sound practical management plans, with emphasis on development of integrated use management systems.

FOR 4660 (FRC 481) Natural Resources Management Policy. W.
Credits: 3; Prereq: Senior standing or consent of instructor.
Factors in evolution of forest range, wildlife and related natural resources policies in the United States; policy components; policy formation implementation and change processes; introduction to criteria for evaluating effectiveness of policies.

FOR 4623 (FRC 482) Integrated Natural Resources Management. S.
Credits: 3; Prereq: FRC 381, 383, 481.
An integrative approach to the study of forest resource management for the production of multiple products (such as timber, recreation, wildlife, rangeland, etc.) utilizing the case study approach.

FOR 4906 (FRC 496) Forest Problems Seminar. F, W, S, SS.
Credits: 2 to 6
Investigation of a specific problem in forestry, wildlife ecology or forest products. The student will be assigned to a member of the staff in whose field his interest lies. May be repeated with change of content up to a maximum of 18 credits.

GRADUATE COURSES

FOR 6987 (FRC 601) Introduction to Research Planning for Resource Decisions. F.
Credits: 4

WIS 6462 (FRC 605) Research Methods in Wildlife Ecology.
Credits: 4

FOR 6933 (FRC 611) Seminar.
Credits: 1††

FOR 6934 (FRC 612) Topics in Forestry.
Credits: 1 to 5.

WIS 6440 (FRC 615) Forest and Range Wildlife Ecology 1.
Credits: 4

WIS 6441 (FRC 616) Forest and Range Wildlife Ecology 2.
Credits: 4

FOR 6170 (FRC 618) Tropical Forestry.
Credits: 4

FOR 6340 (FRC 620) Advanced Physiology of Forest Trees
Credits: 3

FOR 6310 (FRC 626) Forest Genetics 1.
Credits: 4

FOR 6311 (FRC 627) Forest Genetics 2.
Credits: 4

SOS 6233 (FRC 630) Forest Soils.
Credits: 4 (Ident with SLS 630)

FOR 6742 (FRC 631) Advanced Wood Preservation.
Credits: 4

WIS 6445 (FRC 636) Advanced Waterfowl Ecology.
Credits: 5

FOR 6442 (FRC 650) Methods in Natural Resource Interpretation. S.
Credits: 4; Prereq: Approval of instructor.

FOR 6743 (FRC 652) Timber Physics.
Credits: 3

FOR 6744 (FRC 653) Wood Chemistry.
Credits: 3

FOR 6543 (FRC 680) Advanced Forest Economics.
Credits: 4

FOR 6935 (FRC 696) Research Problems in Forest Resources and Conservation.
Credits: 3 to 9.

FOR 6911 (FRC 697) Supervised Research.
Credits: 1 to 5††

FOR 6942 (FRC 698) Supervised Teaching.
Credits: 1 to 5††

FOR 6971 (FRC 699) Master's Research.
Credits: 1 to 15††

FRUIT CROPS
College of Agriculture

Instructional Staff 1976-1977
Biggs, R.H., Chairman; Bartholic, J.F.; Buchanan, D.W.; Crews, C.E.; Gerber, J.F.; Jackson, L.K.; Krezdorn, A.H.; Sherman, W.B.; Sites, J.W.; Soule, J; Wiltbank, W.J.; Young, M.J.

FRC 3212 (FC 335) Introduction to Citrus Culture. F, S.
Credits: 4; Prereq: BTY 181 or consent of instructor.
History, botany, varieties, and rootstocks of citrus; soil and climatic requirements.

FRC 3221 (FC 341) Citrus Growing. W, SS.
Credits: 4; Prereq: BTY or CBS 261-262 or equivalent.
Citrus production and methods of culture designed to fill the need of the general student in agriculture.

††Grading is on a S-U basis only.

FRC 4941 (FC 400) Full Time Practical Work Experience in Fruit Crops. F, W. S. SS.
Credits: 1-4; S-U grade only; Prereq: Prior arrangement with adviser and approval of Department Chairman and Dean.

FRC 4411 (FC 403) Physiology of Fruit Production. W.
Credits: Credits: 5; Prereq: PLS 201 and BTY 310.
Physiological principles underlying the production of fruit crops.

FRC 4271 (FC 417) Deciduous Fruit Crops. W.
Credits: 4; Prereq: PLS 201 or equivalent,
Culture, harvesting and handling of deciduous fruit crops.

FRC 4612 (FC 437) Citrus Maturity and Packinghouse Procedure. F.
Credits: 4; Prereq: FC 335 or FC 341.
The maturity and grade factors affecting market quality of citrus fruits, the laws regulating the shipping or sale of citrus fruits, and the operation of commercial packinghouses.

FRC 4223 (FC 441) Citrus Production. W.
Credits: 4; Prereq: or coreq: FC 335 and FC 403, or permission of instructor.
A study of the various practices which make up the complete Florida citrus production program. Particular attention is given to the scientific foundations of current practices.

FRC 4241 (FC 442) Grove Operations and Management. S.
Credits: 4; Prereq: FC 341 or FC 441, or permission of instructor.
A course designed to present means of implementation of agricultural programs based upon the latest scientific findings and the changing economic trends. Attention will be given to the responsibilities of owner and manager, and the direction and supervision of operations. Proper record maintenance will be discussed.

FRC 4244 (FC 449) A Study of Current Citrus Research in Florida. SS.
Credits: 5; Prereq: FC 335 or FC 341.
A comprehensive survey of research being conducted in the several areas of citrus production at the Agricultural Research and Education Center at Lake Alfred. Students will be in residence at the Center for 4 weeks. (Offered 1976-77.)

FRC 4224 L (FC 450) Fruit Crops Laboratory 1. W.
Credits: 2; Prereq: FC 335 or FC 341.
Diagnosis of orchard problems and the use of equipment for plant protection.

FRC 4225 L (FC 451) Fruit Crops Laboratory 2. S.
Credits: 2; Prereq: FC 335 or FC 341.
Relation of morphological characteristics of fruit plants and chemical leaf analysis to cultural practices.

FRC 4906 (FC 496) Special Problems in Fruit Crops. F. W, S, SS.
Credits: 1 to 3; Maximum of 9 credits with consent of instructor.
Open to Seniors on consent of instructor. (For additional courses related to Fruit Crops—See Plant Science)

GRADUATE COURSES
(Offered under Horticultural Science.)

GEOGRAPHY
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77
Cross, C.I., Acting Chairman; Antonini, G.A.; Boswell, T.D.; Dunkle, J.R.; Haddock, K.C.; Hetrick, V.R.; Lamme, A.J.; Marcus, R.B.; McCune, S.; Morgan, W.H.; Niddrie, D.L.; Paganini, L.A.; Popenoe, H.L.; Shannon, G.W.; Spurlock, C.W.

Undergraduate degree requirements:

In addition to satisfying the college requirements and the general university requirements for graduation, geography majors are required to follow one of the following courses of study:

Bachelor of Arts: GPY 300, 301, 401, 405, 408, 489. 1 course chosen from the 200-level; 2 courses chosen from the following: GPY 321, 326, 331, 341, 351, 381; 1 course chosen from the following: GPY 380, 381, 384, 385, 386, 390, 391, 393, 394, 397; departmental electives from the 300 and 400 levels to a total of 45 hours in Georgraphy.

Bachelor of Arts (with teacher certification): GPY 300, 301, 489; 3 of the following 4: GPY 401, 405, 408, or GPY 496 with either GPY 305 or 281; 1 course from the 200 level; 2 courses from the following: GPY 321, 326, 331, 341, 351, 381; 1 course from the following: GPY 380, 381, 384, 386, 390, 391, 393, 394, 397; departmental elecives from the 300 and 400 level to a total of 45 hours in Geography. In addition, students seeking certification must complete the required education courses satisfactorily.

Bachelor of Science: GPY 300, 301, 400; 401; 405; 408; 489; 1 course from the 200 level; 2 of the following: GPY 321, 326, 331, 341, 351, 381; 1 of the following: GPY 380, 381, 384, 385, 386, 390, 391, 393, 394, 397; departmental electives to a total of 45 hours; 15 hours in a field outside Georgraphy supporting a specialty in physical geography and approved by the undergraduate coordinator. Students intending to pursue the Bachelor of Science degree must declare their intent to do so to the undergraduate coordinator no later than the third quarter before graduation.

Bachelor of Science (with teacher certification): GPY 300, 301, 400, 489; 3 of the following 4: GPY 401, 405, 408, or GPY 496 with either GPY 305 or GPY 281; 1 course from the 200 level; 2 of the following: GPY 321, 326, 331, 341, 351, 381; 1 of the following: GPY 380, 381, 384, 385, 386, 390, 391, 393, 394, 397; departmental electives to a total of 45 hours; 15 hours in a field outside Georgraphy supporting a specialty in physical geography and approved by the undergraduate coordinator. Students intending to pursue the Bachelor of Science degree must declare their intent to do so to the undergraduate coordinator no later than the third quarter before graduation. In addition, students seeking certification must complete the required education courses satisfactorily.

Departmental honors: In addition to satisfying the college requirements for graduation and the requirements for the degree of Bachelor of Arts or Bachelor of Science, with a major in Georgrahy, the student wishing to graduate with departmental honors must fulfill the following requirements: Attain the grade point average required by the college for graduation with departmental honors;

Participate in at least three courses within the department for honors credit of which at least one course must be at the 300-level and one course at the 400-level;

Complete a senior honors thesis no later than the third week before graduation;

Present the results of the research culminating in the senior honors thesis no later than the second week before graduation;

Complete, with a grade of "A," GPY 492 (Honors Thesis).

The student shall, in consultation with the undergraduate coordinator and his advisor, select three members of the faculty to serve as a committee to evaluate the honors thesis. Normally, these faculty will also serve as advisors in the preparation of the thesis as well.

GEO 1010 (GPY 100) Geography for a Changing World. F, W, S.
Credits: 4
The spatial organization of soceiety. Emphasis is placed upon some of the better known social-geographic concepts.

GEO 1000 (GPY 105) Geographic Concepts. F, W, S.
Credits: 1
Basic concepts in geography. An opportunity to discover the significance of geographic ideas applicable to living in today's world.

GEO 2420 (GPY 200) Geography of World Economies. F, W, S.
Credits: 4
A general geographic survey of the major economies of the modern world with an emphasis on the spatial analysis of economic activities.

(GPY 201) Geography of World Societies. F, W, S, SS.
Credits: 4
An introduction to cultural geography with an emphasis upon the development and spatial arrangement of the major societies of the modern world.

GEO 2410 C (GPY 202) Social Geography. F, W. S.
Credits: 4
Introduction to geography as a social science. Various social concepts presented from a spatial perspective. Discussion and programmed case studies.

GEO 2932 (GPY 292) Honors: Geography. F, W, S.
Credits: 4; Prereq: Permission of Instructor.
For students electing to participate in the undergraduate honors programs.

GEO 3200 C (GPY 300) Physical Georgraphy. F, W, S.
Credits: 4
A study of the development and distribution of landforms, climates, minerals, soils, and water resources. Interrelationships among the elements of the physical envirnment and regional patterns formed by these elements are analyzed against the background of man's utilization of them. Available for laboratory science credit.

(GPY 301) Physical Geography Laboratory.
Credits: 1; Prereq: Previous or concurrent enrollment in GPY 300.
Laboratory to accompany lectures in physical geography.

GEA 3270 (GPY 305) Geography of Florida. W, S.
Credits: 4
The geographic conditions and human adjustments in the major regions of Florida. The natural environment, population, routes of communication, industries, resources, and strategic location in their geographical and historical aspects. Optional field trips.

GE0 3502 (GPY 321) Economic Geography. F.
Credits: 4
A comparative geographical survey of major economic activities such as agriculture, forestry, fishing, mining, manufacturing, and commerce. Emphasis will be upon the study of the characteristics of distribution and the regional patterns of these activities.

GE0 3602 (GPY 326) Urban Geography. F, W, S.
Credits: 4
An empirical and theoretical spatial analysis of the various economic, population and social facets within and between urban settlements.

GE0 3370 (GPY 331) Conservation of Resources.
Credits: 4; Prereq: Sophomore standing or permission of instructor.
A survey of natural and human resources followed by study of wise and wasteful practices of utilization of these resources. Course satisfies resource certification for social studies teachers.

GE0 3471 (GPY 341) Political Geography. W.
Credits: 4
A survey of the impact of geographical influences upon the establishment and functioning of sovereign states and dependent areas in order to give a background for the intelligent comprehension of current events.

GE0 3430 (GPY 351) Population Geography. W, S.
Credits: 4
World-wide distribution of population; the areal distribution of populations in relation to the features of the environment in selected areas; problems of adjustment; population-supporting capacity.

GEA 3504 (GPY 370) Geography of Europe. W.
Credits: 4; Prereq: 6 hours of social sciences.
A comprehensive and systematic survey of the population, natural resources, geographic regions and potentialities of Europe; the significance of this region in the economic and political affairs of the world.

GEA 3554 (GPY 371) Geography of the U.S.S.R. F.
Credits: 4; Prereq: 6 hours of social sciences.
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of the U.S.S.R.; the significance of the U.S.S.R. in the economic and political affairs of the world.

GEA 3624 (GPY 373) Geography of the Near East. S.
Credits: 4; Prereq: 6 hours of social sciences.
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of the Near East; the significance of this region in the economic and political affairs of the world.

GEA 3753 (GPY 374) Geography of the Far East. W.
Credits: 4; Prereq: 6 hours of social sciences.
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of the Far East, the significance of this region in the economic and political affairs of the world.

GEA 3600 (GPY 377) Geography of Africa. F.
Credits: 4; Prereq: 6 hours of social sciences.
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of Africa; the significance of this region in the economic and political affairs of the world.

(GPY 380) Geography of the United States and Canada.
Credits: 4; Prereq: 6 hours of social sciences.
A comprehensive and systematic survey of the physical, economic and social character of the geographic regions of the United States and Canada; the significance of these countries in the economic and political affairs of the world.

GEA 3223 (GPY 381) Historical Geography of the United States. S.
Credits: 4
A survey of the cultural geography of the American past. Characteristics of colonizations, settlement patterns, resource development and culture groups in the evolving regional pattern.

GEA 3464 (GPY 384) Environment and Societies in Latin America. F.
Credits: 4
Systematically-oriented course in which selected environmental and societal topics are placed in geographical context in order to give student a broad understanding of Latin American landscape.

GEA 3300 (GPY 385) Geography of Middle America and the Caribbean. W.
Credits: 4; Prereq: 6 hours of social sciences.
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of Middle America and the Caribbean; the significance of this region in the economic and political affairs of the world.

GEA 3410 (GPY 386) Geography of South America. S.
Credits: 4; Prereq: 6 hours of social sciences.
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of South America; the significance of this region in the economic and political affairs of the world.

GE0 4201 C (GPY 400) Advanced Physical Geography. S.
Credits: 4; Prereq: GPY 300
Analysis of environmental systems and processes. The significance of geographical factors in man-environment interactions. Problems of environmental quality in a geographic context.

GEO 4124 C (GPY 401) Air Photo Interpretation. F, S.
Credits: 5; Prereq.: GPY 300, or permission.
Principles of aerial photography; identification and interpretation of physical and cultural features; sketching and simple map-making and uses of aerial photography.

GEO 4100 C (GPY 405) Maps and Graphs. W.
Credits: 5; Prereq.: Junior standing or permission of instructor.
Analyses of cartographic problems with exercises in techniques of presentation. Map projections and symbols. Problems in statistical representation by graphic methods.

GEO 4164 (GPY 408) Quantitative Analysis in Geography.
Credits: 5; Prereq.: STA 310 or permission of instructor.
Use of quantitative methods in geography with evaluation of statistical techniques in geographic research.

GEA 4684 (GPY 477) Geography of Southern Africa. W.
Credits: 4; Prereq.: GPY 397; recommended APY 443.
An intensive study of the landscape, natural resources, population, historical geography and industrial development of Southern Africa.

(GPY 479) Selected Topics in Geography.
Credits: 1 to 6.

GEO 4930 (GPY 489) Senior Seminar. F, S.
Credits: 1; Prereq.: Senior standing; majors only.
Integration of geographic concepts for graduating seniors; provides introduction to professional geography for students entering the job market.

GEO 4970 (GPY 492) Honors Thesis. F, W, S, SS.
Credits: 4; Prereq.: Senior standing and participation in departmental honors program.
Completion of an honors thesis, meeting departmental specifications, during the quarter in which the student is enrolled.

GEO 4905 (GPY 496) Individual Work. F W, S, SS.
Credits: 1 to 5; For undergraduates only. Prereq.: 12 hours of geography and permission of instructor.
Qualified students and the instructor concerned may choose a particular topic or problem for study. GPY 496 may be repeated for full credit with change of content.

GEO 4944 (GPY 499) Internship. F, W, S, SS.
Credits: 1 to 15; Prereq.: Senior standing.
Experiential learning in position with city, county, regional and state government agencies.

GRADUATE COURSES

GEO 5125 C (GPY 501) Advanced Air Photo Interpretation.
Credits: 3

GEO 5145 C (GPY 502) Remote Sensing.
Credits: 3

Descriptions

GEOLOGY

GEO 5105 C (GPY 505) Advanced Cartography.
Credits: 3

GEO 5945 C (GPY 506) Field Course in Geography.
Credits: 3

GEO 5166 C (GPY 508) Advanced Quantitative Analysis in Geography.
Credits: 3

GEO 5809 (GPY 523) Geography of World Agriculture.
Credits: 5

GEO 5605 (GPY 526) Advanced Urban Geography.
Credits: 4

GEO 5567 (GPY 527) Industrial Location.
Credits: 4

GEO 5839 (GPY 535) Land Tenure and Rural Settlement.
Credits: 5

GEO 5704 (GPY 538) Transportation Geography.
Credits: 4

GEO 5437 C (GPY 551) Research Methods in Population Geography.
Credits: 4

(GPY 579) Selected Topics in Geography.
Credits: 1 to 6; max. of 16.

GEO 5904 (GPY 596) Individual Study.
Credits: 4

GEO 6058 (GPY 600) History of Geographical Thought.
Credits: 5

GEO 6118 C (GPY 603) Introduction to Geographical Research.
Credits: 5

GEO 6946 (GPY 606) Individual Field Work.
Credits: 3

GEO 6509 (GPY 621) Seminar: Economic Geography.
Credits: 4

GEA 6179 (GPY 625) Seminar: Developing Nations.
Credits: 4

GEO 6356 (GPY 635) Seminar: Land and Water Utilization.
Credits: 5

GEO 6435 (GPY 651) Seminar in Population.
Credits: 5

GEO 6429 (GPY 661) Seminar: Culural Geography.
Credits: 5

GEO 6938 (GPY 679) Selected Topics in Geography.
Credits: 1 to 6; max. of 16.

GEA 6219 (GPY 681) Seminar: United States and Canada.
Credits: 5

GEA 6309 (GPY 685) Seminar: Middle America and the Caribbean.
Credits: 5

GEA 6419 (GPY 686) Seminar: South America.
Credits: 5

GEA 6468 L (GPY 688) Resource Utilization and Conservation in Latin America
Credits: 5

††Grading is on a S-U basis only.

GEA 6469 (GPY 689) Seminar: Land, Man, and Migration in Latin America.
Credits: 4

GEA 6109 (GPY 690) Tropical Lands and Their Utilization.
Credits: 15

GEO 6908 (GPY 696) Individual Work.
Credits: 1 to 5

GEO 6918 (GPY 697) Suprvised Research.
Credits: 1 to 5††

GEO 6947 (GPY 698) Supervised Teaching.
Credits: 1 to 5††

GEO 6971 (GPY 699) Master's Research.
Credits: 1 to 15††

GEO 7980 (GPY 799) Doctoral Research.
Credits: 1 to 15††

GEOLOGY
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77

Eades, J.L., Chairman; Blanchard, F.N.; Brooks, H.K,; Deevey, E.S.; Jr.; Griffin, G.M.; Mueller, P.A.; Nicol, D.; Patton, T.H.; Pierce, R.W. Jr.; Pirkle, E.C, Jr.; Randazzo, A.F.; Shaak, G.D.; Smith, D.L.; Spangler, D.P.; Wahl, F.M.; Webb, S.D.

Undergraduate Coordinator; R,W. Pierce, Jr.

To meet the minimum requirements for a major in geology the student must obtain credit in the following core courses or their equivalents: GY 201-202, GY 407-408-409, GY 418, GY 421, and GY 427. Credit for GY 440 or a summer field course in geology is recommended. Courses must also be completed in Basic Technical Writing, EH 302; one year of chemistry, CY 201-202-203-204 or CY 211-212-213; one year of physics, PS 211-212-213 or PS 215-216-217 with appropriate laboratory sections. One quarter of zoology, ZY 201, may be substituted for one quarter of physics. A sequence of three of the following math courses is required: MS 301, 302, 303, CIS 302, and STA 320. Specific course recommendations will depend upon the area of primary geologic interest. Students considering an undergraduate major in geology are urged to contact the undergraduate coordinator, room 311 Floyd Hall, as early as possible for program counseling.

To qualify for honors in geology, a student must obtain a 3.3 average in all geology work attempted. In addition, a thesis based on original research must be presented to the department of Geology along with the recommendation of the student's advisor. Approval of thesis topics must be obtained from the Chairman of the Department.

GLY 1000 (GY 109) Exploring the Geological Sciences. F, W, S, SS.
Credits: 4
Selected topics in the geological sciences. Designed for the student not majoring in science. May not be counted for credit toward a minimum major in Geology.

GLY 2015 (GY 201) Physical Geology. F, W, S, SS.
Credits: 4
Materials, structures, surface features of the earth and processes which have produced them. Related laboratory demonstrations and experiences.

GLY 2100 (GY 202) Historical Geology. F, W, S, SS.
Credits: 4; Prereq: GY 201 or consent of instructor.
Evolution of the earth and its life. The major physical events and evolutionary changes as recorded in the geologic past. Related laboratory demonstrations and exercises.

GLY 2026 (GY 220) Geology for Engineers. F, W, S.
Credits: 4
The several fields of geology significant in the location of engineering structures and installations; the identification of common minerals and rocks; the processes of weathering and erosion; structure; surface features and geologic history interpreted from topographic and geologic maps. For engineers.

GLY 2152 (GY 240) Regional Gelogy of the Southeast. W.
Credits: 2; Prereq: GY 201 or GY 220 and consent of instructor.
Observation and study of geologic features in the field. Course includes an eight day field trip (between quarters) to areas of geologic interest to study the stratigraphy, structure and geologic history of the southeastern United States.

GLY 4155 (GY 400) Geology of Florida. SS.
Credits: 4; Prereq: GY 201 or GY 220 or consent of instrucor.
Principles of physical and historical geology as applied to the geology and mineral resources of Florida.

GLY 4700 (GY 401) Introduction to Geomorphology. S.
Credits: 4; Prereq: GY 202.
Description of the earth's major geomorphic features, their origin and evolution, and the geomorphic description and interpretation of topographic maps.

GLY 4210 (GY 407) Crystallograhy. F.
Credits: 4; Prereq: GY 201 or CY 201 or permission of the instructor.
Introduction to principles of crystal chemistry, crystal structure types, morphological and structural crystallography, physical properties of minerals, and techniques of mineral indentification.

GLY 4200 (GY 408) Mineralogy. W.
Credits: 4; Prereq: GY 407.
A continuation of GY 407 involving a systematic study of rock-forming, geologically significant, and economically useful minerals, with emphasis upon their properties, occurrence, origin, identification and recognition.

GLY 4400 (GY 409) Structural Geology. W.
Credits: 4; Prereq: GY 202 or consent of instructor.
Structural features of the earth, their causes, recognition and interpretation, to include the mechanics of folding, faulting, and other deformations of the earth's crust.

GLY 4800 (GY 411) Economic Geology. S.
Credits: 4; Prereq: GY 408 and GY 409.
The geology of ore deposits with emphasis on origin and occurrence.

GLY 4301 (GY 418) Elementary Petrology. S.
Credits: 4; Prereq: GY 408.
The mineralogy and texture, classification, recognition, occurrence, origin, and alteration of igneous, sedimentary, and metamorphic rocks.

GLY 4610 (GY 421) Invertebrate Paleontology. S.
Credits: 4; Prereq: GY 202 or CBS 211-221.
Characteristics and identification of important groups of invertebrate fossils and their use in the determination of the geological age of sedimentary rocks.

GLY 4511 (GY 427) Principles of Stratigraphy. F.
Credits: 4; Prereq: GY 202.
Introduction to the concepts of biostratigraphic, lithostratigraphic, geochronologic, and chronostratigraphic units, and their proper definition, purpose, and use in stratigraphic work.

GLY 4515 (GY 428) Stratigraphic Analysis. W.
Credits: 4; Prereq: GY 202 and GY 427.
A course in advanced stratigraphy. Emphasis placed upon the detailed study of subsurface sampling techniques (well logs) and the presentation of stratigraphic information through Stratigraphic Maps.

GLY 4522 (GY 429) Paleozoic Stratigraphy. S.
Credits: 4; Prereq: GY 202 and GY 427.
A study of the Paleozoic stratigraphic history as displayed in the "type" areas of Europe and North America. Emphasis is also placed upon the local reference sections of North America and their stratigraphic record.

GLY 4750 (GY 440) Geological Field Methods. W.
Credits: 4; Prereq: 15 hours of geology courses.
Techniques used in geological field work.

OCE 4005 (GY 470) Introductory Oceanography. F, S.
Credits: 4
History of oceanography; distribution of Earth's land and water; nature and relief of the sea's floor; physical and chemical properties of sea water; sea ice; sound in the sea; tides, currents, and waves; marine sedimentation.

GLY 4865 (GY 480) Introduction to Geophysical Instruments and Field Methods. S.
Credits: 4
Field use of geophysical instruments.

GLY 4930 (GY 490) Special Topics in Geology. F, W, S.
Credits: 4; Prereq: Three courses in Geology or permission of instructor.
Lecture, conferences, or laboratory sessions covering selected topics of current interest in modern geology. May be repeated with change in content up to a maximum of 12 credits.

GLY 4915 (GY 496) Individual Work. F, W, S, SS.
Credits: 1 to 5. Maximum of 10 credits. Prereq: 15 hours of Geology and permission of Chairman of Department.
For work in addition to that offered in regular courses in physiography, mineralogy, petrology, paleontology, stratigraphy, sedimentology, and structural geology. With changes in content GY 496 may be elected for additional credit.

GRADUATE COURSES

GLY 5704 (GY 501) Geomorphology. S.
Credits: 4; Prereq: GY 409.

GLY 5640 (GY 507) Vertebrate Paleontology. F.
Credits: 4 (Ident. with ZY 507) Prereq: ZY 309 or GY 202.

GLY 5241 (GY 508) Geochemistry. W.
Credits: 4; Prereq: GY 202 and CY 213.

GLY 5230 (GY 515) Mineralogical Analysis by X-Ray Methods. S.
Credits: 4; Prereq: GY 407 or permission of the instructor.

GLY 5734 (GY 517) Marine Geology. S.
Credits: 4; Prereq: GY 202 or permission of the instructor.

GLY 5221 (GY 518) Optical Crystallography. W.
Credits: 4; Prereq: GY 407 or permission of the instructor.

GY 5790 (GY 540) Geology Summer Field Camp. SS.
Credits: 12; Prereq: GY 201 and GY 202 and consent of instructor.

GLY 5820 (GY 550) Ground Water Geology. W.
Credits: 4

GLY 5555 (GY 560) Sedimentology. F.
Credits: 4; Prereq: GY 418.

GLY 5050 (GY 580) Development of the Geological Sciences. W.
Credits: 3

GLY 5450 (GY 582) Introduction to Geophysics. F.
Credits: 4; Prereq: GY 201 and one year of college physics or consent of instructor.

GLY 5860 (GY 584) Principles of Exploration Geophysics I. W.
Credits: 4; Prereq: GY 201 and one year of college physics or consent of instructor.

GLY 5861 (GY 585) Principles of Exploration Geophysics II. S.
Credits: 4; Prereq: GY 201 and one year of college physics or consent of instructor.

GLY 6420 (GY 600) Tectonics.
Credits: 4

GLY 6705 (GY 601) Geomorphology of Southeastern United States.
Credits: 4

GLY 6645 (GY 607) Ancient Vertebrate Faunas.
Credits: 4

GLY 6651 (GY 608) Seminar in Evolution.
Credits: 4

GLY 6250 (GY 611) Mineralogy of Clays.
Credits: 4

GLY 6813 (GY 612) Non-Metallic Geologic Materials.
Credits: 4

GLY 6896 (GY 613) Seminar on Mineral Deposits and Conservation Geology.
Credits: 4

GLY 6265 (GY 614) Isotope Geology.
Credits: 4

GLY 6245 (GY 616) Analytical Geochemistry.
Credits: 4

GLY 6225 (GY 618) Petrographic Mineralogy.
Credits: 4

GLY 6345 (GY 619) Sedimentary Petrography.
Credits: 4

GLY 6620 (GY 623) Micropaleontology.
Credits: 4

GLY 6660 (GY 624) Paleoecology.
Credits: 4

GLY 6615 (GY 625) Advanced Invertebrate Paleontology.
Credits: 4

GLY 6530 (GY 640) Cenozoic Stratigraphy.
Credits: 4

GLY 6829 (GY 651) Hydrogeology.
Credits: 4

GLY 6931 (GY 660) Seminar.
Credits: 1; maximum of 3.

GLY 6341 (GY 661) Sedimentary Petrology.
Credits: 4

GLY 6351 (GY 662) Carbonate Sedimentology.
Credits: 4

GLY 6574 (GY 664) Fluvial, Deltaic, and Transitional Environments of Sedimentation.
Credits: 4

(GY 666) Historical Ecology of the Pleistocene.
Credits: 4 (Ident. with APY 666, BTY 666, ZY 666)

GLY 6575 (GY 668) Coastal and Estuarine Geology.
Credits: 4

OCG 6276 (GY 675) Geological Oceanography 1.
Credits: 4

GLY 6931 (GY 676) Offshore Oil, Gas, and Other Mineral Resources.
Credits: 4

GLY 6932 (GY 690) Special Topics in Geology.
Credits: 1 to 4; maximum of 12

GLY 6905 (GY 696) Individual Work.
Credits: 1 to 5; maximum of 15.

GLY 6910 (GY 697) Supervised Research.
Credits: 1 to 5††

GLY 6974 (GY 698) Supervised Teaching.
Credits: 1 to 5††

GLY 6910 (GY 699) Master's Research.
Credits: 1 to 15††

HEALTH AND HOSPITAL ADMINISTRATION
College of Health Related Professions

INSTRUCTIONAL STAFF 1976-77
Champion, J.M., Chairman; Elnicki, R.A.; Kilpatrick, K.E.; Richie, N.D.; Randall, J.M.

GRADUATE COURSES

HCA 6101 (HA 600) Perspectives in Health.
Credits: 4

HCA 6302 (HA 601) Hospital Organization, the Community and Patient Care.
Credits: 3

HCA 6201 (HA 602) Financial Administration of Health and Hospital Care.
Credits: 3

HCA 6391 (HA 610) Seminar in Health and Hospital Administration.
Credits: 4

HCA 6691 (HA 611) Seminar in Health and Hospital Administration.
Credits: 2

HCA 6401 (HA 612) Introduction to Rehabilitation Facility Administration.
Credits: 2

HCA 6717 (HA 640) Research in Health and Hospital Administration.
Credits: 5

HCA 6801 (HA 641) Practicum in Health and Hospital Administration.
Credits: 2 to 7

HCA 6811 (HA 646) Residency in Health and Hospital Administration.
Credits: 7††

HCA 6716 (HA 691) Hospital Administration Research and Reports.
Credits: 2

HCA 6701 (HA 696) Individual Work in Hospital Administration.
Credits: 2

HEALTH RELATED PROFESSIONS
College of Health Related Professions

INSTRUCTIONAL STAFF 1976-77
Suzuki, H.K., Dean; Adams, S.S.; Britt, M.S.; Finley, M.D.; Fisher, N.P.; Gill, A.A.; Menks, F.A.; Morgenstern, L.S.; Scott, B.S.; Sieg, K.W.; Wagner, J.T.; West, F.E.; Winkler, R.E.; Wroe, M.C.

The following courses are common to one or

††Grading is on a S-U basis only.

more areas of training in the College of Health Related Professions. See Clinical and Community Dietetics (CCD), Medical Technology (MET), Occupational Therapy (OCT),* and Physical Therapy (PHT) for additional professional courses in the respective curricula. HRP 101 is required for clinical and community dietetics, medical technology, occupational therapy, and physical therapy. HRP 401 is required for occupational therapy. HRP 331 is required for clinical and community dietetics, medical technology and physical therapy. HRP 433 and 434 are required for physical therapy and occupational therapy.

HSC 1001 (HRP 101) Introduction to Health Related Professions. F, W. S.
Credits: 3
Open to all University College students. The current concept of comprehensive care of the ill and disabled. An orientation to the roles of the various health professions.

APB 3223 (HRP 331) Basic Anatomy and Physiology. F, W, S, SS.
Credits: 3 to 5; Prereq: ZY 201.
Open to students in the College of Health Related Professions and to others by permission of instructor. The structure and physiological function of selected human systems.

HSC 3520 L (HRP 332) Basic Anatomy and Physiology Laboratory. F.
Credits: 1
Laboratory sections to correlate with content of HRP 331.

HSC 4550 (HRP 401) Psychiatric Disorders. F.
Credits: 4; Prereq: or Coreq: OCT 201 or permission of instructor.
Personality formation with emphasis on periods of tension and conflict. Intensive study of psychoses and psychoneuroses and their psychiatric management. Personality reactions to physical illness.

HCA 4112 (HRP 405) The American Health Care System. S.
Credits: 3
An examination of the structure, organization and functions of the American Health Care System, the interrelationships between organized health institutions, health professionals and consumers of health services will be studied with emphasis on depicting their effects on the organization, financing and delivery of health services.

HCA 4511 (HRP 406) Supervisory Skills in Health Care Administration. W.
Credits: 3
An examination of concepts and skills of supervision as they apply in the administration of selected types of health care facilities.

HSC 4162 (HRP 407) The Hospital and Related Organizations. S.
Credits: 4
Major health delivery institutions are analyzed with the scope of investigation extending from internal organization and activities to the external factors influencing those activities. Emphasis will be placed on administrative responsibilities of health care professionals, i.e. planning, budgeting, and internal control of ancillary departments.

(HRP 408) Legal and Ethical Aspects of Health Care Delivery. W.
Credits: 4
An examination of various legal and ethical considerations and constraints placed upon the health care industry, health care delivery, and the individual health care practitioner by laws, governmental agencies, consumers, and various professional organizations.

HSC 4540 (HRP 417) Kinesiology. W.
Credits: 2 to 4; Prereq: OCT 431 or PHT 332.
Biomechanics of the musculoskeletal system with analysis of human motion and evaluation of function relating to physical disability.

HSC 4522 (HRP 431) The Nervous System. W.
Credits: 4; Prereq: OCT 431 or PHT 332 or permission of instructor.
Gross structure and internal configuration of the human nervous system and their relationships to function. Prerequisite not needed for Occupational Therapy.

APB 4500 (HRP 432) General Pathology. W,
Credits: 4; Prereq.: HRP 431.
The pathogenesis of human diseases and injuries. The mechanisms whereby etiologic agents affect changes resulting in signs and symptoms. Functional rehabilitative techniques are emphasized. Prerequisite for Occupational Therapy: HRP 431.

HSC 4516 (HRP 433) Medical and Surgical Disorders. S.
Credits: 3 to 4; Prereq. or Coreq.: HRP 431 or HRP 432.
Medical lectures on the etiology, pathology, symptomatology and treatment of orthopedic conditions.

HSC 4517 (HRP 434) Medical and Surgical Disorders. F.
Credits: 3 to 4; Prereq.: HRP 431.
Medical lectures on etiology, pathology, symptomatology and treatment of neurological conditions.

(HRP 460) Practicum. S.
Credits: 6; Prereq: HRP 405, 406, and 407 or by permission of department chairman.
An exposure and involvement of students in the managerial activity of health care facility middle managers/supervisors for the purpose of developing recognized and accepted managerial competencies through the application and demonstration of prescribed objectives. This course will be offered for seniors only.

HSC 4930 (HRP 490) Special Topics. F, W, S, SS,
Credits: 1 to 5; Prereq: Permission of Department heads or Dean.
May be repeated with change of content up to a maximum of 10 credits.

HES 4906 (HRP 496) Individual Study in Health Related Professions. F, W, S, SS.
Credits: 2 to 10; Prereq.: Permission of Chairman of Department or Dean.
Supervised program of studies to investigate problems significant to health related professions. May be repeated with change of content up to a maximum of 16 credits.

GRADUATE COURSES

LIN 5711 L (HRP 551) Laboratory Study of Emergent Language Behavior. F, S.
Credits: 4

HSC 6395 (HRP 600) Perspectives in Health.
Credits: 4; (Ident to HA 600)

HSC 6939 (HRP 690) Special Topics. F, W, S, SS.
Credits: 1 to 5; Prereq.: Permission of Department heads or Dean.

HSC 6906 (HRP 696) Individual Study in Health Related Professions.
Credits: 3 to 5. Maximum of 10 credits.

HSC 6910 (HRP 697) Supervised Research.
Credits: 1 to 5††

HSC 6946 (HRP 698) Supervised Teaching.
Credits: 1 to 5††

††Grading is on a S-U basis only.

HISTORY
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77
Funk, A.L., Chairman; Baringer, W.E.; Beyerchen, A.D.; Bentley, G.R.; Blakey, A.F.; Burns, A.M., III; Bushnell, D.; Chalmers, D.M.; Chang, R.T.; Colburn, D.R.; Conroy, S.S.; Cox, M.G.; Davis, R.H. Jr.; Doherty, H.; Entner, M.L.; Gannon, M.V.; Goslinga, C.C.; Gutfeld, A.; Hammond, E.A.; Henry, G.S.; Hoffman, E.; Hoffman, G.J.; Kele, M.H.; Laurent, J.K.; McAlister, L.N.; McGuiness, D.M.; Macaulay, N.W., Jr.; Mahon, J.K.; Paul, H.W.; Peek, R.L.; Pleasants, J.M.; Pozzetta, G.E.; Proctor, S.; Savitt, T.L.; Schwartz, H.; Slaughter, J.E.; Sommerville, C.J.; Sturgill C.C.; Suarez, A.; Trueblood, F.; Turner, E.R.; Wilensky, N.M.; Wilson, H.A.; Winius, G.D.; Woodruff, W.

A major consists of a minimum of 40 hours of history. Although no invariable sequence is prescribed, majors are expected to take the following: HY 245-246; two courses from HY 318, 319, 324, 325, 326, 327; at least 20 hours of courses at the 300 and 400-level; and at least two history courses outside the areas of European and United States History (i.e., Africa, Asia, and Latin America). Transfer students must take at least 20 hours of history at the University of Florida to complete a major. Prospective majors should consult one of the departmental advisers as early as possible. Candidates for Honors and High Honors are required to take HY 300 or HY 400, and complete a Senior Thesis.

EUH 2000 (HY 200) Western Civilization: From Early Times Through the Middle Ages. F, W, S.
Credits: 3
An introduction to western civilization *primarily designed for non-majors.* Coverage of the early cultures in Mesopotamia and Egypt, the Minoan-Mycenean society, Greece, the Hellenistic period, Rome, the barbarian invasions, and the Middle Ages.

EUH 2001 (HY 201) Western Civilization: From the Renaissance to the 18th Century. F, W, S, SS.
Credits: 3
A continuation of HY 200 *primarily designed for non-majors.* Highlights the Renaissance and Reformation, the Thirty Years War, the Age of Louis XIV, mercantilism, and the Enlightment.

EUH 2002 (HY 202) Western Civilization From the 18th Century to the Present. F, W, S, SS.
Credits: 3
A continuation of HY 201 *primarily designed for non-majors.* Highlights the 18th-century revolutions, Napoleon, Age of Metternich, revolutions of 1848, unification of Germany and Italy, imperialism, the two world wars, communism, fascism, and the postwar era to present.

AMH 2010 (HY 245) United States to 1877. F, W, S, SS.
Credits: 5.
A survey of the development of the U.S. from its colonial origins to the end of Reconstruction.

AMH 2020 (HY 246) United States Since 1877. F, W, S, SS.
Credits: 5.
A survey of the emergence of modern America as an industrial and world power; the Progressive era; WWI; great depression and New Deal; WWII; and the cold war era.

HIS 3152 (HY 300) An Introduction to Historical Thinking. S.
Credits: 4
Introduction to the methodological and philosophical bases of historical analysis, with students developing individual projects relating to a major historiographical problem.
Qualifies as credit for High Honors and for Departmental Honors.

EUH 3101 (HY 307) The Ancient Near East, from Earliest Times to 500 B.C. F.
Credits: 4
Beginnings of western civilization. Emphasis on Egypt, Mesopotamia, and the peoples of the Old Testament.

EUH 3401 (HY 308) The Greek World to 200 B.C. W.
Credits: 4
Greek foundations of western civilization, from Minoans and Mycenaeans to Alexander the Great. Emphasis on classical Greek history, especially the 5th century.

EUH 3412 (HY 309) The Roman World. S.
Credits: 4
Romans and their contribution to western civilization. Covers the traditions of the Roman Republic, the Carthaginian Wars, and the Imperial period.

EUH 3121 (HY 313) Early Middle Ages. F.
Credits: 4
The western world from the dissolution of the Roman Empire in the West to the birth of the German Holy Roman Empire.

EUH 3122 (HY 314) The High Middle Ages. W.
Credits: 4
The western world from the inception of Germany through the Twelfth Century Renaissance to the height of medieval civilization.

EUH 3123 (HY 315) Later Middle Ages. S.
Credits: 4
The waning and decline of the Middle Ages of the western world from its height to the voyages of discovery.

EUH 3142 (HY 318) Renaissance. F.
Credits: 4
Interpretations of the Renaissance. Italy: culture and politics. The northern Renaissance and Christian Humanism.

(HY 319) Reformation. W.
Credits: 4
Medieval background. The Protestant, Radical, and Catholic Reformations of the 16th century. Impact on European society.

EUH 3202 (HY 324) Europe, 1660 to 1763. W.
Credits: 4
An introductory course on European politics, society, ideas, and institutions from the age of Louis XIV to the dissolution of the French Colonial empire.

EUH 3205 (HY 325) Europe, 1763 to 1848. F.
Credits: 4
An introductory course on European politics, society, ideas, and institutions from the Enlightenment to the triumph of the bourgeoisie.

(HY 326) Europe, 1848 to 1914. W.
Credits: 4
An introductory course on European politics, society, ideas, and institutions from the revolution of 1848 to the outbreak of World War I.

EUH 3206 (HY 327) Europe Since 1914. S.
Credits: 4
An introductory course on European politics, society, ideas, and institutions from World War I to the present.

EUH 3571 (HY 330) Russia to 1801. F.
Credits: 4
A survey of the history of the Russian State. Emphasis is on institutional, political, and economic history.

EUH 3572 (HY 331) Russia, 1801-1917. W.
Credits: 4
Emphasis is on internal political, economic, and social history, the impact of modernization and the rise of radical ideologies.

EUH 3573 (HY 332) Soviet Union. S.
Credits: 4
A survey of Soviet history, Emphasis is on internal politics and institutions, and on the development of the Soviet economy.

EUH 3500 (HY 335) Medieval England. F.
Credits: 4
The creation of a national society and culture, in the time of England's constitutional development (to the 16th century).

EUH 3501 (HY 336) Early Modern England. W.
Credits: 4
The development of a revolutionary tradition and of a parliamentary monarchy, in the period of England's cultural flowering (16th to 18th centuries).

EUH 3502 (HY 337) Modern Britain. S.
Credits: 4
Social, political, and economic developments in the time of Britain's greatest world dominance.

AFH 3100 (HY 343) Africa to 1800. F.
Credits: 4
Ancient Africa, the expansion of Islam, savannah kingdoms, East African trading cities, maritime conacts with Europe, the slave trade.

AFH 3200 (HY 344) Africa Since 1800. W.
Credits: 4
The end of the slave trade and the growth of "legitimate" commerce;Islamic renewal and revolution; the European partition and the colonial era; the growth of nationalism and the re-emergence of independent Africa.

(HY 352) Florida to 1821, F, W, S, SS.
Credits: 3
Exploration and settlement; colonial history of Spanish and British Florida.

(HY 353) Florida 1821 to 1900. W, S.
Credits: 3
U.S. acquisition, Seminole Wars, territory and state, Civil War, Reconstruction, Bourbons, railroads, Populists.

(HY 354) Florida 1900-Present. F, W, S, SS.
Credits: 3
The Progressive Era, the Catts Explosion, Great Florida Land Boom, Great Depression and World Wars, diversification of agriculture, tourism, urbanization, industrialization, social and intellectual developments.

AMH 3315 (HY 355) American Popular Culture to 1970.
Credits: 4; (Ident. with AMS 355)
A survey of the interests and amusements of the common man in the United States from the camp meeting to the rock festival from the tent show to the television program.

AMH 3581 (HY 360) Minority Group Conflicts in Historical Perspective.
Credits: 3
A course focused on the historical background of "minorities within minorities," e.g., Ulster-Ireland-Britain. To be offered periodically with area and content change.

LAH 3300 (HY 370) Current Latin American Events.
Credits: 3; Prereq.: ability to understand Spanish.
Events as reported in contemporary Spanish-language sources. Offered in cooperation with the Foreign Language Department.

LAH 3130 (HY 371) Colonial Latin America.
Credits: 4
A survey of the formation of Spanish and Portuguese imperial systems and colonial societies in America in the sixteenth, seventeenth and eighteenth centuries.

LAH 3301 (HY 372) The Emergence of Modern Latin America.
Credits: 4
A survey of Spanish and Portuguese imperial crises in the eighteenth century, and the independence movement and the formation of the Latin American nations in the nineteenth century.

(HY 373) Twentieth Century Latin America.
Credits: 4
A survey of contemporary challenges to traditional orders in Latin America, adaptations to existing structures, and revolutionary change.

LAH 3712 (HY 374) The Inter-American System S.
Credits: 4
Diplomatic and other relations between the United States and Latin America, with emphasis on the development of an organized inter-American system.

ASH 3301 (HY 381) East Asian Civilizations to 1800, I.F.
Credits: 4
The historical and cultural development of China to 1800.

ASH 3302 (HY 382) East Asian Civilizations to 1800, II. S.
Credits: 4
The historical and cultural development of Korea and Japan to 1800.

ASH 3303 (HY 383) East Asian Civilization Since 1800. W.
Credits: 4
The historical development of China and Korea under the impact of the West since 1800.

(HY 385) India to 1857. W.
Credits: 4
Background of traditional Hindu and Muslim institutions, European commercial initiative and political involvement, British achievement of paramount power in India.

(HY 386) India Since 1857. S.
Credits: 3
British imperial rule, the freedom movement, the interests of minorities and partition of the subcontinent, independent India.

HIS 4114 (HY 400) The Nature of History. W.
Credits: 4
An introduction to the philosophy of history, including analysis of interpretations of the historical process, criticism of classical theories of history, and consideration of recent theories on historical explanation. Qualifies as credit for High Honors and for Departmental Honors.

HIS 4470 (HY 401) History of Technology I;
Credits: 4, (Ident. with EGC 401).
This course examines the development of technology and engineering from antiquity to the Industrial Revolution. Emphasis will be on the relationship of the development of technology to the growth of western civilization.

HIS 4471 (HY 402) History of Technology II.
Credits: 4, (Ident. with EGC 402).
This course examines the development of technology and engineering from the beginning of the Industrial Revolution to the early twentieth century. Emphasis will be on the relationship of the development of technology to the cultural growth of western civilization.

AMH 4376 (HY 403) History of Technology III.
Credits: 4, (Ident. with EGC 403).
This course investigates the development of technology and engineering in North America from about 1700 to the early twentieth century. It is concerned primarily with the influence of the growth of technology on the developing pattern of life in the United States.

(HY 404) Jacksonian America. W.
Credits: 4
The main trends in political, economic and social history in the United States from the close of the War of 1812 through the compromise of 1850, with major emphasis on political history.

Descriptions

(HY 405) Slavery and Civil War in the U.S. F.
Credits: 4; Prereq.: HY 245.
Biracial settlement of the South, a minority within a minority; north of slavery, abolitionist crusade, sectional controversy, the War, and why the North won.

(HY 406) Reconstruction and Race Relations, 1862 to the Present. W.
Credits: 4
Congressional Reconstruction and the Freedman under Lincoln, Johnson, and Grant: the legend and reality of "Radical" Republican policy towards the Negro. The Era of Segregation, 1862-1954. The Civil Rights Movement and the Second Reconstruction: black protest and the nation's response to the Negro Revolution.

EUH 4100 (HY 407) Ancient Babylonia from the Sumerians to the Parthians.
Credits: 4
A cultural survey of the major historical periods in Ancient Mesopotamia focusing on the indigenous Sumerians, Babylonians, and Assyrians and the instrusive Persians, Greeks, Romans, and Parthians using the latest information in archaeological, linguistic, and historical research.

EUH 4404 (HY 408) Ancient Greece.
Credits: 4
Selected topics from the Archaic period, the Golden Age (5th century), and the Hellenistic era. Use will be made of various types of source materials, literary, archeological, numismatic, and the like, in illuminating the area of historical inquiry.

EUH 4414 (HY 409) Ancient Rome.
Credits: 4
Selected topics from the period of the Republic and from the Empire.

EUH 4650 (HY 410) European Military History to 1783. F.
Credits: 4. Offered alternate years.
The founding and growth of the state controlled military establishment, and the exercise of the military art, and military policies treated in connection with relevant political, and economic factors.

EUH 4651 (HY 411) European Military History Since 1783. S.
Credits: 4; Offered alternate years.
A continuation of HY 410.

EUH 4092 (HY 412) Childhood and Youth in Western Civilization. S.
Credits: 4
A history of attitudes toward children, of efforts to use, help, and understand them, and of the ideological importance of the child, and what these show about our civilization, since the Greeks.

EUH 4581 (HY 413) Economic and Social History of Modern Russia and the Soviet Union.
Credits: 4 [Ident. with ES 413]

(HY 414) Background of World War II.
Credits: 4
The first World War, the Treaty of Versailles, diplomacy between the wars, analysis of events leading to World War II.

EUH 4280 (HY 415) History of the Second World War W.
Credits: 4
An analysis of the Second World War covering especially politics, resistance movements, and strategy. Although all theaters are covered, the emphasis is on Europe.

EUH 4610 (HY 417) European Social History, 1358-1750.
Credits: 4
Social structure, social change, and revolt in western and southern Europe from the Black Death to the Industrial Revolution. Offered alternate years.

EUH 4611 (HY 418) European Social History, 1750-Present.
Credits: 4; Offered alternate years.
Social change and revolution in western Europe from the Industrial Revolution to contemporary society.

EUH 4601 (HY 419) Intellectual History of Europe, Enlightenment to Romanticism. F.
Credits: 4
Development of scientific and religious ideas in context of social conditions of knowledge. Emphasis on Scientific Revolution, Cartesianism, Baconianism, Enlightenment, Romanticism.

EUH 4602 (HY 420) Intellectual History of Europe from Positivism to Structuralism. W.
Credits: 4
Impact of Marxism, Darwinism , and changing nature of scientific knowledge. Attention given to ideology, sociology of knowledge. Mid-19th through 20th ecentury.

EUH 4313 (HY 421) Age of Discovery: The Portuguese and Spanish, 1415-1763. W. Not offered 1977-78.
Credits: 4
European emergence from medieval isolation to global civilization. Emphasizes ancient world background,Arab trading system, Iberian discovery and empire.

EUH 4223 (HY 422) —Age of Discovery: The Dutch, The English and the French, 1500-1763. S. Not offered 1977-78.
Credits: 4
Emergence of the Dutch, English and French , in the context of their position in European affairs.

EUH 4511 (HY 423) Elizabethan England, 1509-1660. F.
Credits: 4
Cultural, social and constitutional developments in the time of the emergence of political and religious consciousness.

EUH 4513 (HY 424) Restoration England, 1660-1793.
Credits: 4
Cultural, economic, and political developments in the era of England's industrial, imperial, and diplomatic dominance.

EUH 4451 (HY 426) France in the 20th Century.
Credits: 4

EUH 4463 (HY 430) Germany in the 19th entury. F.
Credits: 4
From the Prussian reform movement through the personal reign of Wilhelm II, with emphasis on the creation of the German Empire.

EUH 4464 (HY 431) Germany in the 20th Century. W.
Credits: 4
From the origins of World War I to divided Germany after World War II. Emphasis on the Weimar Republic and the Nazi era.

HIS 4930 (HY 433) — Population Problems in Historical Perspective. S. Not offered 1977-78.
Credits: 4
Introduction to historical demography from neolithic times to the modern era in Europe and selected other geographical areas.

EUH 4640 (HY 434) Economic History of Europe to A.D. 1350. F.
Credits: 4
Agrarian Europe from Neolithic times, the medieval and early modern European village community.

EUH 4641 (HY 435) Economic History of Europe, 1350-1700. W.
Credits: 4
The rise of towns, development of commerce, history of business organization, medieval and early modern European demographic history.

(HY 436) World Encounter: An Analysis of Global Historical Trends since 1500. W.
Credits: 4
To inter-relate the major factors which in the last 400 years have influenced the formation of today's power structure.

AFH 4450 (HY 437) Southern Africa. F.
Credits: 4
The hisotry of Southern Africa from the pre-European era to the present.

AFH 4250 (HY 439) Modern Africa. W.
Credits: 4
Selected topics in 19th and 20th century African development: pre-colonial conditions, colonial rule, nationalist movements and the problem of independence.

AMH 4307 (HY 440) U.S. Social and Intellectual to the Civil War.
Credits: 4
Colonial religious and social structure, enlightenment, revolution, constitutionalism, liberalism, emergence of a national culture, age of reform.

AMH 4309 (HY 441) U.S. Social and Intellectual since the Civil War.
Credits: 4
Darwinism, pragmatism, progressivism, nationalism, cultural relativism, New Deal, post WWII search for standards.

AMH 4460 (HY 442) — U.S. Urban History. F.
Credits: 4
Analysis of the growth and development of urban civilization in the U.S. Emphasis on how cities began and their impact on politics, economics and culture.

HES 4100 (HY 443) Topics in the History of Medicine.
Credits: 4
Beginning with primitive societies, the course will trace the development of ideas of medical treatment, concepts of disease, and the growth of medical knowledge over the centuries. Students will also have the opportunity to perform research on an aspect of medical history of interest to them.

AMH 4172 (HY 444) Era of the American Civil War. W.
Credits: 4 Prereq: Permission of the Instructor or HY 349 or 350.
A reading and discussion course with emphasis on American politics from 1850 to 1876. Topical focus on expansion and conflict; nativism; steps toward separation; military and policy aspects of the War; the conflicting goals of reconciliation and freedom; constitutional problems; the political economy of Reconstruction during the Grant era.

AMH 4530 (HY 445) Immigration and Ethnicity in American History. S.
Credits: 4
A historical survey of America's minorities, including analyses of assimilation, ethnic identification, adjustments, and nativism.

AMH 4546 (HY 446) U.S. Military Policy in War and Peace 1. F.
Credits: 3
From European background in the 18th century through the Civil War. Not drum and trumpet history, but the relationship of military institutions to the rest of U.S. history. Emphasizes the search for peace as well as war.

AMH 4547 (HY 447) U.S. Military Policy in War and Peace 2. W.
Credits: 3
Since 1865. Emphasizes the managerial revolution at the end of the 19th century, the hypertrophy of war, and introduces modern defense and peace problems.

AMH 4423 (HY 450) Selected Topics in Florida History. F, S.
Credits: 4; Maximum of 8 credits.
Directed reading from sources and in-depth examination of selected periods, making use of teaching resources and concepts from related disciplines.

AMH 4402 (HY 451) The South to 1860. F.
Credits: 4
Development of Southern culture from the earliest settlements to the development of Southern nationalism.

AMH 4403 (HY 452) The South Since 1860. W.
Credits: 4
Impact of Civil War and Reconstruction; the economic, political and social development of the New South.

AMH 4444 (HY 453) The Far West. S.
Credits: 4
A history of the nineteenth-century trans-Mississippi West with special attention to the exploration, acquisition and settlement of the Great Plains. Emphasis on the Mexican War, Manifest Destiny, economic development and the impact of the white man on Indian cultures.

AMH 4041 (HY 454) Studies in American Civilization. F.
Credits: 4; (Ident. with AMA 454).
Examination of periods, themes, and movements in U.S. history, using concepts and data from the humanities and social sciences.

AMH 4935 (HY 455) Undergraduate Seminar in American Civilization. S.
Credits: 4; (Indent. with AMS 455).
Topics and themes of the American past examined from interdisciplinary perspectives. Individual projects based on student training and interest will be emphasized.

AMH 4579 (HY 456) Colloquium, History of the Afro-American. F.
Credits: 4; Prereq.: Permission of the Instructor.
A reading-and-discussion course which each year gives concentrated attention to a different aspect of black history and culture.

AMH 4578 (HY 457) Problems in Afro-American History. F.
Credits: 4; Prereq.: Permission of Instructor.
A reading-and-discussion course with primary focus on the question of black nationalism versus assimilation of the U.S. with concentrated attention to issues and movements and the condition of Afro-American accommodation and resistance.

AMH 4110 (HY 458) Colonial America. F.
Credits: 4; Prereq: HY 245.
Description and analysis of the origins of the Anglo-North American colonies; development of colonial society, economy, culture and insitutions; international rivalry for North American supremacy.

AMH 4130 (HY 459) American Revolutionary Era. W.
Credits: 4; Prereq.: HY 245.
The Great War for Empire and post war adjustents, deterioration of relations between the colonies and England, 1763-75; War for Independence; government under the Articles of Confederation and the movement for constitutional revision.

EUH 4314 (HY 460) Spain and Portugal, 15th-17th Centuries, F.
Credits: 4
History of Spain and Portugal from the close of Middle Ages, emphasizing research tools and bibl. materials. Spanish dominance and decline.

EUH 4315 (HY 461) Iberian History, Since 1700.
Credits: 4
Spanish and Portuguese quest for modernity.

LAH 4732 (HY 465) Cultural History of Latin America. F.
Credits: 4
A survey of the development of colonial art and architecture in the American hemisphere during the 16th and first half of the 13th centuries.

LAH 4733 (HY 466) Cultural History of Latin America.
Credits: 4
A continuation of HY 465, covering the latter half of the 17th and 18th centuries.

LAH 4722 (HY 470) Problems in the Social History of Latin America (I). W.
Credits: 4
An examination of the historical roots of select contemporary issues, as found in colonial and early national class and race relations, population movements, and patterns of external dependency. To be presented with use of films and literary materials as well as conventional historical readings.

LAH 4723 (HY 471) Problems in the Social History of Latin America (II). F, S.
Credits: 4
The later development, mainly in the present century, of issues considered in HY 430, together with new forces making for change. Special attention to modern social revolutionary movements. Procedures same as in HY 470.

LAH 4471 (HY 472) Caribbean, the Old Colonial System.
Credits: 4
Comparison of the colonial regimes in the West Indies and Central America to 1821 (c), international rivalry, slavery and the slave trade.

LAH 4472 (HY 473) Caribbean, 19th and 20th Centuries.
Credits: 4
Development of the West Indies and Central America with emphasis on the decline of colonial rule and on economic and social evolution.

LAH 4433 (HY 474) Modern Mexico. W.
Credits: 4
Aftermath of independence and war with U.S., the Reforma and Maximilian, Porfiriate, Mexican Revolution and Contemporary trends.

LAH 4520 (HY 475) Gran Colombian Nations. S.
Credits: 4
Comparative study of political institutions, dynamics, economic development of Colombia, Venezuela, Ecuador, primarily since independence.

LAH 4510 (HY 476) Platine Republics. F.
Credits: 4
Argentina, Paraguay, and Uruguay since independence, briefer examination of colonial antecedents. Argentina as a case-study of abortive political and economic take-off.

LAH 4629 (HY 477) Brazil to 1822. F.
Credits: 4
Foundations of Portugese civilization in Brazil, sugar planters, bandeirantes, miners, ranchers and slaves. Political, social and economic developments from 1500 to 1822.

LAH 4639 (HY 478) Brazil Since 1822. S.
Credits: 4
Monarchy, wars, slavery, the military question, the Republic, coffee, industralization, 20th century ideologies.

ASH 4441 (HY 482) Japan to 1800. F.
Credits: 4
Yamato Japan, adoption of Chinese institutions, the rise and evolution of Japanese feudalism, Japan's first contact with the West, establishment of the Bakuhan structure.

ASH 4442 (HY 483) Japan Since 1800.
Credits: 4
Decline of Tokugawa feudalism the Meiji restoration, the growth of Japan as a nation-state.

AMH 4206 (HY 485) U.S., Populist Era to World War I. F.
Credits: 4:
The Populist era; Progressivism; WWI.

AMH 4271 (HY 486) U.S., World War I to World War II. W.
Credits: 4:
Post War America; the twenties; depression and New Deal; WWII.

(HY 487) U.S. Since WW II. S.
Credits: 4.
Post War America; America as world power; social revolution, Vietnam, Watergate.

SS1 4601 (HY 491) Masterpieces in Social Sciences 1. F.
Credits: 4, (Ident.) with SY 591, ES 591, PCL 591.)
For advanced students with background in the social sciences and approval of major adviser and course chairman. Readings from classics in economics, history, political science, sociology and culture anthropology.

SS1 4602 (HY 492) Masterpieces in Social Sciences 2. W.
Credits: 4; (Ident. with SY 592, ES 592, PCL 592.)
For advanced students with background in the social sciences and approval of major adviser and course chairman. A continuation of HY 491, studying a different set of classics.

SS1 4603 (HY 493) Masterpieces in Social Sciences 3. S.
Credits: 4; (ident. with SY 593, ES 593, PCL 593.)
For advanced students with background in the social sciences and approval of major adviser and course chairman. A continuation of HY 492, studying a different set of classics.

HIS 4930 (HY 496) Special Studies. F.W.S.SS.
Credits: 1 to 5.
May be repeated with change of content up to a maximum of 12 credits.

HIS 4970 (HY 497) Senior Thesis. F.W.S.SS.
Credits: 3; Prereq.: Senior standing and permission of the department. May be repeated with approval of department.
Directed research leading to the submission of an original thesis. Required for candidates for High Honors and for Departmental Honors.

GRADUATE COURSES

EUH 5934 (HY 501) Topics in European History.
Credits: 4; Max. 16.

AMH 5930 (HY 502) Topics in U.S. History.
Credits: 4; Max. 16.

LAH 5934 (HY 503) Topics in Latin American History.
Credits: 4; Max. 16.

EUH 5546 (HY 504) Topics in British History.
Credits: 4; Max. 16.

ASH 5388 (HY 505) Topics in East Asian History.
Credits: 4; Max. 16.

AFH 5934 (HY 506) Topics in African History.
Credits: 4; Max. 16.

AMH 5934 (HY 596) Special Studies. F.W.S.SS.
Credits: 4

HIS 6060 (HY 602) Theories and Methods 1.
Credits: 5

HIS 6061 (HY 603) Theories and Methods 2.F.
Credits: 5

EUH 6126 (HY 613) The Middle Ages.
Credits: 5; Max. 15.

AMH 6379 (HY 614) The United States in the World Economy, 1783-1960.
Credits: 5. [Ident. with ES 614.]

EUH 6213 (HY 618) Europe, 1500-1763.
Credits: 5

EUH 6226 (HY 619) European Expansion.
Credits: 5

EUH 6298 (HY 620) Seminar in the History of Modern European Thought.
Credits: 5; Max. 15.

EUH 6289 (HY 623) Readings, Modern Europe.
Credits: 5; Max. 15.
There are 3 sequences: 18th century; 19th century; 20th century.

EUH 6339 (HY 624) Central Europe.
Credits: 5

EUH 6342 (HY 625) Western Europe Since 1763.
Credits: 5

EUH 6320 (HY 626) Eastern Europe.
Credits: 5

EUH 6508 (HY 633) England.
Credits: 5; Max. 15.

HIS 6148 (HY 640) Historians and American Society.
Credits: 5; Max. 10.

AMH 6549 (HY 641) Seminar in the Hisotry of American Military Policy.
Credits: 5; Max. 10.

AMH 6393 (HY 642) Seminar in American Thought.
Credits: 5; Max. 15.

AMH 6498 (HY 643) Seminar in Urban-Ethnic History.
Credits: 5; Max. 10.

AMH 6117 (HY 646) Colonial America.
Credits: 5

AMH 6149 (HY 647) United States, Early National.
Credits: 5

AMH 6169 (HY 648) United States, The Middle Period.
Credits: 5

AMH 6179 (HY 649) United States, Division and Reunion.
Credits: 5

AMH 6201 (HY 650) The Emergence of Modern America.
Credits: 5

AMH 6239 (HY 651) America Between the Wars.
Credits: 5

AMH 6279 (HY 652) America Since 1945.
Credits: 5

AFH 6934 (HY 660) Africa.
Credits: 5; Max. 15.

LAH 6609 (HY 672) Seminar-Brazilian History.
Credits: 5. May be repeated.

LAH 6934 (HY 673) Seminar in Colonial Spanish America.
Credits: 5. May be repeated.

LAH 6208 (HY 674) Seminar in Independent Spanish America.
Credits: 5: May be repeated.

ASH 6904 (HY 682) Readings in Japanese History.
Credits: 5; May be repeated with change of content to a maximum of 15.

HIS 6909 (HY 696) Individual Study.
Credits: 5; Max. 20.

††Grading is on a S-U basis only.

HIS 6910 (HY 697) Supervised Research.
Credits: 1 to 5. ††

HIS 6940 (HY 698) Supervised Teaching.
Credits: 1 to 15 ††

HIS 6971 (HY 699) Master's Research.
Credits: 1 to 15 ††

HIS 7289 (HY 700) Comparative History.
Credits: 5; Max. 15.

HIS 7980 (HY 799) Doctoral Research.
Credits: 1 to 15. ††

HORTICULTURAL SCIENCE
College of Agriculture

INSTRUCTIONAL STAFF 1976-77
Kelly, J. F., Chairman; (Faculty listed under Fruit Crops, Ornamental Horticulture, and Vegetable Crops).

GRADUATE COURSES

HOS 6931 (HSC 601) Horticultural Science Seminar.
Credits: 1†† Maximum 4.

HOS 6112 (HSC 603) Morophology of Horticultural Crops.
Credits: 5; Prereq: BTY 532.

HOS 6122 (HSC 604) Taxonomy of Horticultural Crops.
Credits: 5; Prereq: BTY 380.

HOS 6201 (HSC 605) Perennial Horticultural Crop Breeding.
Credits: 5; Prereq: AY 362.

HOS 6212 (HSC 606) Herbaceous Horticultural Crop Breeding.
Credits: 3; Prereq: AY 362; Desirable prereq: PLS 542, BTY 551.

HOS 6231 (HSC 607) Biochemical Genetics of Higher Plants.
Credits: 4; Prereq: AY 362 or ZY 325 and BCH 579 or equivalents.

HOS 6311 (HSC 611) Seed Physiology.
Credits: 5; Prereq: BTY 310, BTY 311.

HOS 6412 (HSC 612) Nutrition of Horticultural Crops.
Credits: 5; Prereq: BTY 310, BTY 311 and OH 441 or FC 403 or equivelant.

HOS 6341 (HSC 613) Environmental and Developmental Physiology of Horticultural Crops.
Credits: 5; Prereq: BTY 310, BTY 311.

HOS 6351 (HSC 614) Chemical Regulators of Horticultural Crops.
Credits: 4; Prereq: HSC 613 or equivalent.

HOS 6331 (HSC 615) Postharvest Physiology.
Credits: 5; Prereq: BTY 310, BTY 311 and VC 451, OH 442 or FC 437 or equivalent.

HOS 6611 C (HSC 620) Agricultural Meteorology.
Credits: 5

HOS 6631 (HSC 621) Environmental Measurements.
Credits: 3; Prereq: Permission of instructor.

HOS 6361 (HSC 626) Rootstock-Scion Relationships.
Credits: 4

HOS 6512 (HSC 627) Nursery Production and Management.
Credits: 4; Prereq: BTY 310, BTY 311, PLS 301, PLS 311 and OH 420, FC 442, HSC 632 or HSC 633 or equivalent.

FRC 6233 (HSC 630) Citriculture.
Credits: 5

FRC 6243 (HSC 631) Citrus Production Management.
Credits: 5

FRC 6251 (HSC 632) Tropical Fruits.
Credits: 4; Prereq: Permission of instructor.

FRC 6252 (HSC 633) Tropical Beverage, Nut and Spice Crops.
Credits: 4; Prereq: Permission of instructor.

FRC 6256 (HSC 634) Tropical Fruit Production and Research in Florida.
Credits: 5

ORH 6280 (HSC 640) Orchidology.
Credits: 4; Prereq: OH 441

ORH 6223 (HSC 641) Research and Development in Turfgrass Science.
Credits: 5; Prereq: BTY 310.

VEC 6251 (HSC 650) Advanced Olericulture.
Credits: 5; Prereq: BTY 310

HOS 6932 (HSC 691) Topics.
Credits: 2 to 5; Max. 10.

HOS 6941 (HSC 692) Practicum in Horticultural Science.
Credits: 2 to 5; Max. 10.

HOS 6910 (HSC 696) Nonthesis Research in Horticultural Science.
Credits: 1 to 5; Max. 5.

HOS 6911 (HSC 697) Supervised Research.
Credits: 1 to 5.††

HOS 6942 (HSC 698) Supervised Teaching.
Credits: 1 to 5††

HOS 6971 (HSC 699) Master's Research.
Credits: 1 to 5††

HOS 7980 (HSC 799) Doctoral Research.
Credits: 1 to 15††

INDUSTRIAL AND SYSTEMS ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1976-77
Thomas, M.E., Chairman; Ariet, M.; Burns, J.F.; Capehart, B.L.; Dominiak, K.E.; Francis, R.L.; Hearn, D.W.; Hodgson, T.J.; Kalman, R.E.; Kilpatrick, K.E.; Leavenworth, R.S.; Lowe, T.J.; Mahoney, J.F.; Martinson, E.P. (emeritus); Muth, E.J.; Nattress, J.A.; Ratliff, H.D.; Sivazlian, B.D.; Swain, R.W.; Valisalo, P.E.; Wilcox, D.B. (emeritus).

EIN 3304 (ISE 300) Industrial and Service Process. W.
Credits: 3
Overview of process and operations in manufacturing and service industries. Industrial and Systems Engineering applications are developed within the context of selected industries.

ESI 3305 (ISE 301) Introduction to Industrial and Systems Engineering. F, S.
Credits: 3: Prereq.: ISE 350 and MS 304.
Introduction to the philosophy and methodology of operations research. Problem formulation and mathematical modeling of problems encountered in industrial and systems engineering.

ESI 3305 (ISE 302) Introduction to Industrial, Systems Engineering Laboratory.
Credits: 1
This course is designed to be a companion to ISE 301 — Introduction to Industrial and Systems Engineering. Various computer programs, physical models and demonstrations will be used to amplify the concepts and techniques discussed in ISE 301. (Corequisite — ISE 301)

EIN 3314 L (ISE 330) Work Design. F, S.
Credits: 3; Prereq.: STA 440.
The analysis, design and maintenance of work methods. Principles, techniques and procedures for determination and audit of time standards. The study of synthetic time systems and work sampling. Consideration of factors affecting successful implementation and maintenance of a methods engineering program. Laboratory.

EIN 3373 (ISE 331) Job Evaluation. W.
Credits: 2; Prereq.: ISE 330.
Analysis of factors affecting job value. Analysis of several systems for determining the relative worth of jobs. Wage plan development, wage surveys, group and individual incentives, and merit rating. Consideration of factors affecting successful implementation and maintenance of a wage administration program.

EIN 3114 (ISE 350) Computer Programming for Engineers. F, W, S, SS.
Credits: 3; (Ident. with CIS 303); Prereq.: MS 302.
Computer programming and the uses for large scale digital computers. Emphasis will be placed on the scientific oriented computer language FORTRAN. Engineering and technical problems are solved by each student using the facilities of the Computer Center. This course is specifically directed toward those students who are pursuing technical careers in fields employing a reasonably high degree of mathematics.

ESI 3502 (ISE 351) Numerical Techniques. F, W, S, SS.
Credits: 2; (Ident with CIS 304); Prereq.: ISE 350 Coreq.: MS 305.
Major techniques for solving problems quantitatively through the use of computers and computer programming languages. Numerical and computer solutions to elementary systems of algebraic equations and ordinary differential equations.

ESI 3154 (ISE 352) Process Control Computer Programming. W.
Credits: 1
Basic princiles and uses of process control digital computers. Consideration of basic machine language analog-to-digital and digital-to-analog conversions and process control. Laboratory.

ESI 3123 (ISE 357) Analog Computer Principles. F. W,S,SS.
Credits: 2; Prereq: MS 305
Basic principles and uses of analog computer. Consideration of solution of simultaneous algebraic and differential equations as well as elementary simulation techniques. Laboratory.

ESI 4567 (ISE 401) Matrix Methods in Systems Engineering. F,W,SS.
Credits: 3; Prereq: MS 304.
Theory and application of vector spaces and matrices to systems problems. Analysis of linear transformations, simultaneous linear equations, characteristic values, and quadratic forms. Convex sets, n-dimensional geometry, and an introduction to system theory.

ESI 4568 (ISE 402) Transform Methods in Systems Engineering. F, W, S.
Credits: 3; Prereq: MS 305.
Solutions of differential, integral and difference equations arising in systems engineering and operations research problems using Laplace and Z-transform methods. Operational approaches will be stressed.

ESI 4569 (ISE 403) Dimensional Methods in Systems Engineering. S.
Credits: 2; Prereq: ISE 401 or equivalent or consent of instructor.
A utilization of dimensional methods to include: systems of units, the notion of homogeneity, calculational methods, simplification of boundary and initial value problems, similarity.

EIN 4344 (ISE 410) Invertory Systems. F,S.
Credits: 3; Prereq: ISE 471.
Deterministic and probabilistic inventory models for single-item and multi-item systems. Application of dynamic programming. Inventory processes analyzed as stochastic processes. Concept of optimal policy. Constrained inventory systems. Analysis of distribution systems.

EIN 4354 (ISE 420) Engineering Economy. F, W, S, SS.
Credits: 3; Prereq: Upper Division classification.
Basic principles and applications of economic decision-making between alternatives encountered in engineering systems projects. The analysis will include methodologies of economics, accounting and finance in addition to engineering fundamentals.

EIN 4355 (ISE 421) Economic Decision Models. W.
Credits: 3; Prereq: ISE 420 and ISE 470.
Fundamental principles of engineering evaluation and decision making under conditions of uncertainty, risk, and assumed certainty. Included are the Laplace principle, Hurwicz criterion, Savage regret, and minimum-variance expectation principles. Problems of data collection and analysis are discussed. System production functions are studied.

EIN 4333 (ISE 432) Production Control Sqstems. F. S.
Credits: 3; Prereq: ISE 330, ISE 420, ISE 471, STA 441.
Analysis of production systems, forecasting, methods of control, material flow systems, scheduling, sequencing, lot size scheduling, project management.

EIN 4365 (ISE 433) Facilities Planning. W.
Credits: 3; Prereq: ISE 453, ISE 470, ISE 471.
Principles, methods, and techniques for analyzing existing and designing proposed plant facilities. The problems involved in and the interrelationships of plant location, product analysis, process design, equipment selection, materials handling, plant arrangement and supplementary services.

EIN 4335 (ISE 434) Production Systems Analysis and Design. F, S.
Credits: 3; Prereq: ISE 433.
Total production systems design. Integration of production subsystems design with concentration on methods of successful implementation. A project and case study oriented course. Laboratory.

EIN 4243 (ISE 440) Human Engineering W, SS.
Credits: 3; Prereq: Upper Division classification, STA 440, STA 441.
Design, analysis, and evaluation of man-machine systems. Emphasis on interaction of human and non-human components and resultant effect upon total system performance. Discussion of man's physical, mental and psychological characteristics and limitations.

EIN 4105 (ISE 441) Specifications, Contracts, Ethics, and Industrial Safety. W.
Credits: 3; Prereq: Upper Division classification.
Contracts and contracting procedures and documents; specifications; professionals ethics and responsibilities; legal obligations of employers and safety techniques.

EIN 4212 (ISE 442) Accident Prevention Engineering. W.
Credits: 3; Prereq: Upper Division classification.
Workmen's Compensation provisions. Safety standards, procedures and equipment. Organization and conduct of employee safety training.

ESI 4560 (ISE 451) Numerical Techniques in Systems Engineering. F, S.
Credits: 3; Prereq: ISE 350, and ISE 401.
A study of numerical techniques suitable for computer solution of problems involving interpolation, zero-finding, matrix operations, eigenvalues, eigenvectors, differentiation, integration, relaxation and differential equations, error analysis.

ESI 4221 (ISE 452) Industrial Quality Control. F, S.
Credits: 3; Prereq: STA 440.
Factors affecting product quality are identified and analyzed as they affect variations in and levels of quality performance. The concept of control of quality is introduced. Techniques of controls are studied including control charts and statistical sampling for process and lot conformance. The measurement of the significance of control factors is studied.

ESI 4523 (ISE 453) Industrial Systems Simulations. F, S.
Credits: 3; (Ident. with CIS 453); Prereq: ISE 351, STA 440.
Simulation methodology, languages and design. Monte Carlo technique, GPSS (General Purpose Simulation System), and Industrial Dynamics applied to the solution of industrial problems.

ESI 4235 (ISE 462) Methods of Reliability Engineering. S.
Credits: 3; Prereq: STA 440.
Role and activities of reliability engineering. Models for equipment failure. Reliability function and hazard function. Typical failure distribution. Reliability of redundant systems. Models of repair and maintenance.

ESI 4312 (ISE 470) Operations Research 1. F, W.
Credits: 3; Prereq: ISE 301 and ISE 401.
Classical optimization; method of Lagrange multipliers, Kuhn-Tucker conditions; research techniques; convex programming; linear programming; sensitivity analysis; transportation and assignment algorithms.

ESI 4313 (ISE 471) Operations Research 2. W, S.
Credits: Credits: 3; Prereq: ISE 402, ISE 470; STA 440.
Branch and Bound methodology; dynamic programming; queueing theory; Markov chains; network analysis.

STA 4603 (ISE 474) Operation Research: A Survey of Technology and Applications. W.
Credits: 4
Fundamental survey of operations research techniques with emphasis on practical applications. Topics covered include linear programming, dynamic programming, networks and flow graphs, queues, and Markov chains. (Not availalbe to ISE students).

ESI 4545 (ISE 480) Stochastic Syslems. W.
Credits: 3; Prereq: ISE 402 and STA 441.
Development and application of probability models in the output analysis of production systems. Applications of probability theory to systems design for reliability, safety, and effectiveness. Formulation of system behavior as a stochastic process.

ESI 4554 (ISE 481) Systems Design. W, S.
Credits: 3; Prereq: ISE 351 and ISE 357. Coreq: ISE 471.
The design of complex integrated systems using principles of operations research and systems analysis. A design laboratory gives the student experience in modeling and computer simulation of system design configurations and prototype experimentation.

INTERIOR DESIGN

EIN 4937 (ISE 490) Industrial and Systems Engineering Seminar. F, W, S.
Credits: 1; Prereq: ISE 471.
Lectures and discussions on general and specific engineering problems. Individual investigations and research reports on assigned topics. Orientation for an industrial career.

EIN 4931 (ISE 496) Special Problems in Industrial and Systems Engineering. F,W,S,SS.
Credits: 1 to 6
Problems and systems studies associated with honors programs representing undergraduate research. Selected advanced topics including new developments and techniques in industrial and systems engineering. May be repeated up to a maximum of 12 credits.

EIN 4944 (ISE 497) Practical Work in Industrial and Systems Engineering. F,W,S,SS.
Credits: 1 to 5; Prereq: 4EG classification; one term industrial employment, including extra work according to a preapproved outline.
Practical engineering work under industrial supervision as set forth in the College of Engineering Regulations.

ESI 4935 (ISE 499) Co-Op Work Experience. F, W, S, SS.
Credits: 1 to 5
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

GRADUATE COURSES

EIN 5244 (ISE 540) Measurements in Bioengineering.
Credits: 3

ESI 5570 (ISE 551) Digital Computer Techniques 1. F, S.
Credits: 3; Prereq: ISE 351, ISE 401.

ESI 5571 (ISE 552) Digital Computer Techniques 2. W.
Credits: 3; Prereq.: ISE 551.

ESI 5125 (ISE 557) Analog Simulation Techniques. F,S.
Credits: 3; Prereq: ISE 357.

ESI 5135 (ISE 558) Hybrid Computer Techniques. W.
Credits: 3; Prereq: ISE 357, or ISE 481.

ESI 5236 (ISE 562) Reliability Engineering. S.
Credits: 3; Prereq: STA 440.

ESI 5307 (ISE 570) Operations Analysis 1. SS.
Credits: 3

ESI 5308 (ISE 571) Operation Analysis 2. SS.
Credits: 3

ESI 5309 (ISE 572) Operations Research: A Survey of Techniques and Applications. W.
Credits: 4

ESI 6408 (ISE 601) Introduction to Optimization Theory.
Credits: 3

ESI 6438 (ISE 602) Dynamic Programming.
Credits: 3

ESI 6439 (ISE 603) Dynamic Optimization Theory.
Credits: 3

ESI 6417 (ISE 604) Linear Programming.
Credits: 3

ESI 6418 (ISE 605) Extensions of Linear Programming.
Credits: 3

ESI 6429 (ISE 606) Nonlinear Programming.
Credits: 3

††Grading is on a S-U basis only.

ESI 6458 (ISE 607) Flows in Networks.
Credits: 3

ESI 6448 (ISE 608) Discrete Optimization Theory.
Credits: 3

ESI 6499 (ISE 609) Advanced Topics in Mathematical Programming.
Credits: 1 to 4

EIN 6348 (ISE 610) Mathematical Theory of Inventory.
Credits: 3

ESI 6526 (ISE 611) Industrial Dynamics 1.
Credits: 3

ESI 6527 (ISE 612) Industrial Dynamics 2.
Credits: 3

ESI 6358 (ISE 620) Games and Gaming.
Credits: 3

EIN 6357 (ISE 621) Advanced Engineering Economy.
Credits: 3

EIN 6358 (ISE 622) Decision Theory.
Credits: 3

EIN 6338 (ISE 630) Advanced Production Control.
Credits: 3

EIN 6318 (ISE 631) Work Measurement Theory.
Credits: 3

EIN 6367 (ISE 632) Facilities Systems Design.
Credits: 3

EIN 6508 (ISE 635) Health Systems Analysis 1.
Credits: 4

EIN 6509 (ISE 636) Health Systems Analysis 2.
Credits: 4

EIN 6246 L (ISE 640) Human Factors Engineering.
Credits: 3

EIN 6249 (ISE 641) Behavior Systems Engineering.
Credits: 3

EIN 6247 (ISE 642) Man-Machine Systems Design.
Credits: 3

ESI 6529 (ISE 651) Digital Simulation Techniques.
Credits: 3

ESI 6528 (ISE 652) Dynamic Modeling and Simulation.
Credits: 3

EIN 6115 (ISE 653) Information Systems.
Credits: 3

ECM 6260 (ISE 654) Numerical Techniques for Linear Systems.
Credits: 3

ESI 6127 (ISE 657) Analog Computer Techniques.
Credits: 3

ESI 6136 (ISE 658) Analog-Hybrid Systems.
Credits: 3

ESI 6137 (ISE 659) Advance Hybrid Computer Techniques.
Credits: 3

ESI 6222 (ISE 660) Statistical Quality Control.
Credits: 3

EIN 6388 (ISE 661) Statistical Forecasting Models.
Credits: 3

ESI 6239 (ISE 662) Reliability Theory.
Credits: 3

ESI 6316 (ISE 670) Mathematical Methods of Operations Research 1.
Credits: 3

ESI 6317 (ISE 671) Mathematical Methods of Operations Research 2.
Credits: 3

ESI 6546 (ISE 676) Stochastic Systems Analysis 1.
Credits: 3 (Ident. with STA 676.)

ESI 6547 (ISE 677) Stochastic Systems Analysis 2.
Credits: 3

ESI 6349 (ISE 678) Markov Decision Processes for Engineers.
Credits: 3

EIN 6939 (ISE 679) Seminar in Applied Stochastic Processes.
Credits: 3

ESI 6337 (ISE 680) Queueing Theory.
Credits: 3

ESI 6548 (ISE 681) Stochastic Service Systems.
Credits: 3

ESI 6508 (ISE 684) Systems Analysis 1.
Credits: 3

ESI 6509 (ISE 685) Systems Analysis 2.
Credits: 3

ESI 6558 (ISE 686) Advanced Systems Design.
Credits: 3

EIN 6918 (ISE 690) Graduate Seminar.
Credits: 1††

EIN 6932 (ISE 696) Special Problems.
Credits: 1 to 9

EIN 6919 (ISE 697) Supervised Research.
Credits: 1 to 5††

EIN 6948 (ISE 698) Supervised Teaching.
Credits: 1 to 5††

EIN 6971 (ISE 699) Master's Research.
Credits: 1 to 15††

EIN 7933 (ISE 797) Special Problems.
Credits: 1 to 9

EIN 7980 (ISE 799) Doctoral Research.
Credits: 1 to 15††

INTERIOR DESIGN
College of Fine Arts

INSTRUCTIONAL STAFF 1976-77
Butt, A.F., Chairman; McFarlane, J., Adviser; Tate, S.

IND 3311 (IR 315) Interior Architectural Drawing F.
Credits: 4; Prereq: AE 113.
Advanced Interior Design 2 and 3 dimensional drawing.

IND 3210 (IR 331) Interior Design 1.F.
Credits: 5; Preeq: AE 236.
The study of design elements real and abstract involved in the solution of interior space.

IND 3330 (IR 332) Interior Design 2.W.
Credits: 5; Prereq: IR 331.
Continuation of Interior Design 1.

IND 3220 (IR 333) Interior Design 3.S.
Credits: 5; Prereq: IR 332
Continuation of Interior Design 2.

IND 3420 (IR 341) Interior Furnishings 1.F.
Credits: 4; Coreq: IR 331.
The study of the relationshps of materials and furnishing in the design of interior space.

IND 3421 (IR 342) Interior Furnishings 2.W.
Credits: 4; Prereq: IR 341.
Continuation of Interior Furnishings 1.

IND 3430 (IR 343) Interior Furnishings 3.S.
Credits: 4; Prereq: IR 342
Continuation of Interior Furnishings 2.

IND 3100 (IR 372) History 1.W.
Credits: 4
Historic interior styles to the end of the 16th century, with emphasis on their cultural settings.

IND 3130 (IR 373) History 2.S.
Credits: 4
Historic interior styles from the beginning of the 17th century to 1930, with emphasis on their continuing cultural settings.

IND 3441 (IR 375) Textiles. S.
Credits: 4
Studies of textiles, selection, maintenance, fabrication. Emphasis on natural and synthetic fibers used in drapery, upholstery, and wall covering fabrics and floor coverings.

IND 4240 (IR 402) Interior Design for Architects. W.SS.
Credits: 5; Prereq: AE 435.
Advanced problems in the design of commercial and institutional interiors.

IND 4221 (IR 431) Advanced Interior Design 1. F.SS.
Credits: 8; Prereq: IR 333.
Design problems involving commercial, institutional and public areas.

IND 4222 (IR 432) Advanced Interior Design 2.F.W.
Credits: 8; Prereq: IR 431.
Continuation of Advanced Interior Design 1.

IND 4223 (IR 433) Advanced Interior Design 3.W.S.
Credits: 8; Prereq: IR 432.
Terminal project involving all the principles of design studies in previous courses.

IND 4500 (IR 443) Practice of Interior Design. W.
Credits: 4; Prereq: IR 431.
Administration of interior design operations; estimating, professional relations, legal forms, specifications and supervision.

JOURNALISM
College of Journalism and Communications

INSTRUCTIONAL STAFF 1976-77
Griffith, J.L., *Chairman;* Bush, T.J.; Chance, J.C.; Davis, H.G.; Griggs, H.H.; Jones, J.P.; Kent, K.E.; Martin, D.F.; Midcap, L.E.; Parrish, F.F.; Pierce, R.N.; Roosenraad, J.A.; Smith, J.A.; Weston, E.G.; Yates, E.D.

The offerings in journalism are designed primarily for training professional journalists in newspaper and magazine reporting, writing, editing, and interpretation, and in urban affairs reporting. These courses, however, may be taken for elective credit by students in all Upper Division units of the University. Students who are interested in major work in Journalism, Radio, Television. Advertising and Public Relations also are referred to course offerings under Advertising, Broadcasting and Public Relations and to the requirements of the College of Journalism and Communications.

JOU 1400 L (JM 101) Publications Laboratory. F.W.S.
Credits: 1; Prereq: Must be regularly writing for a newspaper of general circulation, or a student publication as defined by the Board of Student Publications. Closed to Upper Division majors.
News writing and editing for beginners. Critique. May be repeated with change of content up to a maximum of two credits.

MMC 1000 (JM 118) Survey of Communications. F,W,S.
Credits: 3
An introduction to the various media of mass communications with special emphasis on newspapers, radio, and television; their requirements and opportunities; and their responsibilities to the public.

MMC 2100 (JM 201) Writing for Mass Communications.F,W.
Credits: 4; Prereq: nine hours of English and Sophomore standing or above; ability to use the typewriter.
A preprofessional course designed to provide fundamental instruction and practice in writing as a basis for Upper Division courses.

JOU 3100 (JM 301) News Reporting.F,W,S,SS.
Credits: 5; Prereq: JM 201
Basic instruction and practice in news gathering and news writing, with special attention being given to style and successful execution of reporting assignments.

JOU 3110 (JM 302) Fact Finding. F,W,S.
Credits: 3
Locating and interpreting basic sources used in reporting and editing news.Students will work with standard reference works and public records, practice interviewing skills, learn to analyze and interpret charts, reports and statistics commonly used by news media, and study survey research as used in reporting.

JOU 3600 (JM 332) Photojournalism. F,W,S.
Credits: 4; Prereq: Junior standing or above in the College of Journalism and Communications or permission of instructor; terminal course not open to students specializing in photojournalism and journalism education. Students must provide all class materials.
Introduction to photography for newspapers and magazines; visualization; functional, historical, legal and stylistic aspects of photojournalism; reportorial still photography with the automatic 35 mm camera, developing and making contact sheets.

JOU 3601 (JM 342) Reportorial Photography. F,W,S,SS.
Credits: 5; Prereq: Junior standing or above in the College of Journalism and Communications or permission of instructor; not open to students specializing in News Editing. Students must provide all class materials.
Basic reportorial still photography, including darkroom techniques; selection and use of photographs for the print media; legal, historical and ethical aspects of photojournalism.

MMC 4420 (JM 401) Introduction to Mass Communications Research. W.
Credits: 4; Prereq: Senior standing; consent of instructor.
An introduction to the basic principles of demographic, survey and experimental research, and the use of commercial research services.

JOU 4104 (JM 402) Public Affairs Reporting. F,W,S,SS.
Credits: 4; Prereq: JM 301, JM 302.
Instruction and practice in reporting public affairs, with special emphasis upon responsible news coverage of city, county and state government.

JOU 4200 (JM 403) Newspaper Editing 1. F, W, S, SS.
Credits: 4: Prereq: JM 301 and JM 302.
Fundamental instruction and practice in essentials of news editing, with special emphasis on editing the weekly and daily newspaper. Included are copyreading, headline writing, makeup and typography.

JOU 4202 (JM 404) Newspaper Editing II. S.
Credits: 4: Prereq: JM 403, PR 425.
Career newspaper editing; emphasis on creativity in editing, layout and design, Color, decision making, news selection and judgment, technology and production, and publication trends.

JOU 4004 (JM 407) History of Journalism. W, S.
Credits: 4
Origin, development and potentiality of printed media, with emphasis on the daily and weekly press. Analysis will be made of the evolution of standards, policies, methods and controls.

JOU 4302 (JM 408) Public Opinion and Editorial Writing. F, W, S, SS.
Credits: 5: Prereq: Senior standing.
Public opinion as a force in government and daily life; introduction to persuasive writing as a practical means of influencing public opinion.

MMC 4200 (JM 409) Law of Mass Communications. F, W, S, SS.
Credits: 4; Prereq: Senior standing.
Understanding the law which guarantees and protects the privileges and defines the responsibilities of the mass media. Includes problems of constitutional law, libel, privacy and governmental regulations.

JOU 4300 (JM 413) Magazine and Feature Writing. F, W, S, SS.
Credits: 4; Prereq: JM 301 or permission of instructor.
Preparation of articles for publication in newspapers and magazines coordinated with study of magazine-editing problems. Supervised marketing of articles produced in the course.

JOU 4800 (Jm 415) Journalism in Secondary Schools. F, SS.
Credits: 5: Prereq: Senior standing. Coreq: JM 201.
Open only to students seeking certification. This course is designed for persons who plan to teach journalism in secondary schools, or who act as faculty advisers for school newspapers, magazines or year-books.

(JM 419) World Communication Systems. W.
Credits: 4
Theoretical bases of world mass media systems; international channels of communications, analysis of press and broadcasting systems by regional and national categories.

JOU 4304 (JM 420) Agricultural Journalism. F, S.
Credits: 4; Lecture-laboratory. Prereq: Junior standing or permission of instructor.
Fundamental instruction in the gathering and writing of agricultural news for daily and weekly newspapers, radio, television, and farm periodicals.

JOU 4301 (JM 432) Interpretive Writing. F, S.
Credits: 4; Prereq: JM 307.
Study and practice in advanced journalism, either in specialty subject areas or in writing and photography. Students may select specialty areas, such as sports, fine arts, and government coverage.

JOU 4602 (JM 442) Advanced Reportorial Photography. W, SS.
Credits: 5; Prereq: JM 342 or permission of instructor. Students must provide all class materials.
Practice in reportorial still photography, including color; trends, managerial aspects and social implications of photojournalism.

JOU 4946 (JM 450) Applied Journalism. F, W, S, SS.
Credits: 5; Prereq: JM 403 and JM 402.
A Senior course bringing together the work of the preceding news courses into actual experience and newsroom training in the preparation and handling of news copy, pictures and syndicated materials.

JOU 4108 (JM 451) Investigative Reporting. F.
Credits: 4; Prereq: JM 301, 302.
Writing investigative, interpretive and editorial articles and columns; in-depth reporting.

(JM 452) Urban Affairs Reporting. W.
Credits: 4; Prereq: JM 402 or permission of instructor.
Instruction and practice in the developing and

writing of in-depth newspaper stories dealing with problems of American cities.

MMC 4605 (JM 465) Mass Media and Social Trends. F, W, S, SS.
Credits: 4; Prereq: Senior standing in the College of Journalism and Communications.
Relationship between mass media and the culture and institutions which make up our society. How each affects the other, the human and economic elements, trends.

(JM 490) Special Study in Journalism.
Credits: 1 to 5; Prereq: Senior standing in Journalism and permission of instructor.
Variable content, providing opportunity for study in academic areas of Journalism such as the Literature of Journalism, and other fields within the province of the College (May be repeated once for a total of 6 quarter hours).

JOU 4905 (JM 496) Individual Problems in Journalism F, W, S, SS.
Credits: 1 to 5; Prereq: At least 15 hours of Journalism in the Upper Division and approval of the Dean.
Students and the instructor concerned will choose a problem or project which will give the student actual experience in his major field.

MMC 4930 (JM 498) College Honors Seminar: Problems in Mass Communication. F, W, S, SS.
Credits: 1 to 5; Prereq: Senior standing and good standing in Honors Program.
Variable content to be announced each quarter. Emphasis is on an interdisciplinary approach to mass communication theory, evaluation of mass media performance, the social role of media, and professional ethics. May be repeated up to 6 credits with consent of Honors Committee.

JOU 4949 (JM 499) Co-op Work Experience. F,W,S,SS.
Credits: 1 to 5. Prereq.: At least 15 hours of professional courses must have been completed. Must have academic adviser, department and college approval to receive credit.
Student and instructor concerned will select an appropriate work area related to the field of journalism or an appropriate communications area where the students may gain work experience and/or on-the-job training.

GRADUATE COURSES

Students interested in graduate work in this area are referred to course offerings under Communication.

LANDSCAPE ARCHITECTURE
College of Architecture

INSTRUCTIONAL STAFF 1976-77
Butt, A.F., *Chairman;* Smith, H.H., *Adviser;* Sanderson, J.A.; Donelin, D.; Nerikar, V.N.

LAA 2710 (LAE 271) History and Theory of Landscape Architecture 1. F,S.
Credits: 4
Esthetic and economic theory of landscape design, from antiquity through the 18th century.

LAA 2711 (LAE 272) History and Theory of Landscape Architecture 2.W.
Credits: 4
19th and 20th century landscape architecture with emphasis on the bionomic relationships of natural and created landscape.

††Grading is on a S-U basis only.

LAA 3350 L (LAE 331) Landscape Architectural Design 1. F.
Credits: 5; Prereq: AE 236.
Program organization, generation of exterior spaces, horizontal circulation; site studies based on individual and group functions.

LAA 3351 L (LAE 332) Landscape Architectural Design 2. W.
Credits: 5; Prereq: LAE 331
Continuation of LAE 331 with increasing emphasis on horizontal circulation, textural and scale relationships.

LAA 3352 L (LAE 333) Landscape Architectural Design 3. S.
Credits: 5; Prereq: LAE 332
Continuation of LAE 332 with emphasis on roadway alignment, parkway and roadside development; site studies based on large group functions.

LAA 3420 (LAE 341) Landscape Construction 1. F.
Credits: 4; Coreq: LAE 331.
Characteristics of land form and the effects of grading on drainage, soils and location of landscape architectural elements.

LAA 3421 (LAE 342) Landscape Construction 2. W.
Credits: 4; Prereq: LAE 341.
Design of non-habitable structures, pavings, trails, low retaining walls and irrigation system layouts.

LAA 3510 (LAE 353) Planting Design. S.
Credits: 5; Prereq: LAE 332
Plant materials as major design elements and the execution of planting plans; specifications and cost estimates.

LAA 3530 (LAE 363) Grounds Maintenance. S.
Credits: 4; (Ident. with OH 363); Prereq: OH 332.
Survey of landscape maintenance problems with emphasis on institutional and public areas.

LAA 4930 (LAE 421) Senior Seminar. W.S.
Credits: 3; Prereq: Senior Standing
Reports, project present., visiting lecturers.

LAA 4355 L (LAE 431) Advanced Landscape Architectural Design 1. F,SS.
Credits: 8; Prereq: LAE 333 and LAE 353.
Large scale and planning projects with emphasis on team and collaborative processes.

LAA 4356 L (LAE 432) Advanced Landscape Architectural Design 2. F, W.
Credits: 8; Prereq: LAE 431.
Continuation of Advanced Landscape Architectural Design 1.

LAA 4357 L (LAE 433) Advanced Landscape Architectural Design 3. W,S.
Credits: 8
A terminal comprehensive project based on the principles of previous studies. Additional sketch problems may be given.

LAA 4210 (LAE 442) Professional Administration. F.
Credits: 5; Prereq: Senior Standing
The preparation of cost estimates and specifications based on different project types, programming of landscape development. Office administration, contracts, professional ethics.

LAA 4830 (LAE 481) Recreation Planning. W,SS.
Credits: 4; Prereq: LAE 333
Problems in urban, state and regional recreational planning and development.

LAA 4934 (LAE 496) Special Studies in Landscape Architecture. W, S, SS.
Credits: 4; Prereq: Senior standing in landscape architecture or architecture, or graduate standing in Planning, or consent of instructor.
Studio investigations of special topics in landscape architecture adjusted to individual needs of advanced undergraduate and graduate students. Students may repeat for a maximum of 8 credits.

LATIN AMERICAN STUDIES
College of Arts and Sciences

THE LATIN AMERICAN FACULTY
Carter, W.E., *Director;* Antonini, G.A.; Carvajal, M.J.; Trueblood, F.M.; Suarez, A.; Soares, G.

In addition to the six faculty members listed above, the Latin American Faculty consists of 60 members from 12 departments, who teach 192 courses with Latin America content available to undergraduates in the Latin American Studies Program.

The Center for Latin American Studies offers a Certificate in Latin America Studies, based upon a special curriculum and a departmental major leading to the degree of Bachelor of Arts or Bachelor of Science in the College of Arts and Sciences, the College of Journalism and Communications and the College of Business Adminstration.

For a description of the Undergraduate Programs in Latin American Studies see CENTER FOR LATIN AMERICAN STUDIES and STUDY ABROAD. Also consult the course offerings of the various departments in this catalog, the Graduate School Catalog, and the *Bulletin* published by the Center for Latin American Studies. Copies of the *Bulletin* may be obtained at 319 Linton E. Grinter Hall.

UNDERGRADUATE COURSES

LAS 4935 (LA 440) Latin American Area Seminar. F,W,S,SS.
Credits: 5; Prereq: Latin American area concentration.
A multidisciplinary approach to Latin American topics. Required of all candidates for B.A./B.S. certificate in Latin American Studies. May be repeated with change of content up to a maximum of 15 credits.

LAS 4905 (LA 496) Individual Work. F,W,S,SS.
Credits: 1 to 5; For Undergraduates only.
Qualified students may choose a topic which focuses on the Latin America area but which cuts across disciplines. Prior consent is needed from instructor involved. May be repeated with change of content up to a maximum of 15 credits.

GRADUATE COURSES

LAS 6938 (LA 640) Latin American Area Seminar. F,W.
Credits: 5. Maximum of 15 credits.

(LW 677) Latin American Legal Institutions Seminar. S.
Credits: 3.Prereq: LW 694.

(LW 678) Latin American Trade and Investment Seminar. W,SS.
Credits: 3; Prereq: LW 694.

(LW 694) Law Seminar Preparation. F,W.
Credits: 1: 1. A prereq: for each law seminar.

(LW 695) Seminar: Joint Ventures in Mexico. W.
Credits: 3; Prereq: LW 694.

LAS 6908 (LA 696) Individual Work. F,W,S,SS.
Credits: 1 to 5

LAS 6971 (LA 699) Master's Research. F,W,S,SS.
Credits: 1 to 15††

LINGUISTICS
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77
Casagrande, J., Director; Byrd, H.P.; Chu, C.; Der Houssikian, H.; Gellinek, C.G.; Harder, J.C.; Hardman-de-Bautista, M.; Jensen, P.; Kotey, P.; McCarthy, K.; Miller, G.; Scholes, R.; Simon, T.W.; Su, S.; Sullivan, W.; Thompson, R.

Linguistics is an interdepartmental program which offers an individual interdisciplinary major for undergraduate students and graduate degrees at the M.S. and Ph.D. levels, as described in the Graduate Catalog.

Students interested in careers in linguistics are advised to take the interdisciplinary major or the B.A. degree in one of the five participating departments of Anthropology, English, Germanic and Slavic Languages and Literatures, Romance Languages and Literature or Speech, with linguistic electives from the other departments. Work in foreign languages should be included, with study of a non-western language highly recommended.

The individual interdisciplinary major consists of 48 quarter hours of courses in linguistics distributed as follows:

a. Required courses: LIN 290, LIN 360, LIN 321, and LIN 496 (seminar).

b. Fixed-choice Requirements: Student selects at least one course from each category.

1. Structure: EH 305, FH 406, SH 406, SI 406, CH 406, RSN 413.

2. Phonetics and Phonology: SCH 285, LIN 380, APY 411, FH 404, SH 404, PE 404

3. Behavior: SCH 394 or SCH 494

c. At least 20 quarters hours from list of approved electives.

A student who wishes to major in Linguistics should consult the Undergraduate Coordinator: W.J. Sullivan, 433 GRI, TEL. #2-2107.

The Program in Linguistics also sponsors the English Language Institute, which offers an intensive noncredit program in English for speakers of other languages, described elsewhere in the catalog.

LIN 2000 (LIN 200) Language and Man. F, S.
Credits: 4
The nature of human language, its origins, and its relationship to thinking and behavior.

LIN 2010 (LIN 290) Introduction to Linguistics. F,W,S.SS.
Credits: 4
Survey of the main areas of the discipline, covering such topics as phonetics,phonology, syntax, morphology, semantics, dialects, linguistic change, linguistic diversity, writing, neurolinguistics and computational linguistics.

LIN 3340 (LIN 320) Traditional Grammars. W.
Credits: 4
Review and evaluation of the principles of traditional grammar as reflected in the works of the best grammarians. Illustrations in several languages. Comparison of varieties of grammatical models used to describe these languages. Evaluation of degree to which a grammar developed essentially for Latin describes other languages, particularly non-Indoeuropean languages. Practice and evaluation of different models of parsing.

LIN 3611 (LIN 321) Languages and Dialects. S.
Credits: 4
An introduction to the defining characteristics and varieties of human natural languages and dialects. Presentations include: a model of the nature of language, a survey of language families, the unity of languages and their diversity, areal linguistics, pidgins, creoles and international languages.

LIN 3700 (LIN 360) Language and the Brain. F, S.
Credits: 3
How sentences are produced understood, and remembered by the human language user, Linguistic studies of aphasia, mental retardation, and selected communicative skills such as reading will be considered.

LIN 3371 (LIN 363) Studies in Non-Western Languages. F,W,S,SS.
Credits: 2 to 5 Prereq. Permission of the department.
Basic language instruction in non-Western language such as Aymara, Ga, Shona, or Yoruba.

LIN 3221 (LIN 380) The Sounds of Human Language. F.
Credits: 3
Study of sounds, their patterning, and function in languages of the wrold.

LIN 4905 (LIN 496) Individual Study in Linguistics, F,W,S. SS.
Credits: 1 to 5
Individual study for Linguistics majors.

GRADUATE COURSES

LIN 5025 (LIN 505) Principles of Anthropological Linguistics.
Credits: 4

LIN 5715 (LIN 594) Language Acquisition.
Credits: 5

LIN 6136 (LIN 602) Principles of Linguistics.
Credits: 4

LIN 6435 (LIN 605) Gathering and Analysis of Linguistic Data.
Credits: 4

LIN 6222 (LIN 610) Introduction to Phonological Studies.
Credits: 4

LIN 6240 (LIN 611) Phonological Theory
Credits: 4

LIN 6241 (LIN 612) Studies in Phonology
Credits: 4; max. of 12.

LIN 6387 (LIN 620) Introduction to Syntactic Studies.
Credits: 4

LIN 6380 (LIN 621) Syntactic Theory
Credits: 4

LIN 6381 (LIN 622) Studies in Syntax and Semantics
Credits: 4

LIN 6435 (LIN 624) Seminar in Linguistic Field Methods.
Credits: 5

LIN 6128 (LIN 630) Historical Linguistics.
Credits: 4

LIN 6129 (LIN 631) Studies in Linguistic Change.
Credits: 4; max. of 12.

LIN 6118 (LIN 640) History of Linguistics.
Credits: 4

LIN 6416 (LIN 650) Materials and Techniques in TESL.
Credits: 4

LIN 6415 (LIN 652) TESL Observation and Analysis.
Credits: 2

LIN 6600 (LIN 655) Sociolinguistics.
Credits: 4

ENG 6571 (LIN 656) American Social Dialects.
Credits: 4

LIN 6622 (LIN 657) Bilingualism in America
Credits: 4

LIN 6377 (LIN 661) Structure of a Specific Language.
Credits: 4

LIN 6401 (LIN 665) Contrastive Analysis.
Credits: 4

LIN 6932 (LIN 690) Rotating Topics.
Credits: 4

LIN 6908 (LIN 696) Individual Study.
Credits: 1 to 4

LIN 6910 (LIN 697) Supervised Research.
Credits: 1 to 5††

LIN 6940 (LIN 698) Supervised Teaching.
Credits: 1 to 5††

LIN 6971 (LIN 699) Master's Research.
Credits: 1 to 15††

LIN 7984 (LIN 799) Doctoral Research.
Credits: 1 to 15††

MANAGEMENT
College of Business Administration

INSTRUCTIONAL STAFF 1976-77
Horowitz, I., Chairman; Barry, C.B.; Cornelius, W.G.; Davidson, L.M.; Elnicki, R.A.; Feldman, J.M.; Fogler, H.R.; Fox, W.M.; Hass, J.M.; James, J.H.; Jesse, R.R.; Koehler, G.J.; Majthay, A.; Oliver, C.; Reitz, H.J.; Young, J.W.

MAN 3010 (MGT 310) Principles of Management. F, W, S, SS.
Credits: 4
Fundamentals of management underlying the solution of problems of organization and operation of business enterprises.

MAN 3301 (MGT 350) Personnel Management. F, W, S.
Credits: 4
A comparison and evaluation of public and private personnel practices and techniques of recruiting, selecting, transferring, promoting, classifying, and training workers. Not open to management major.

MAN 3150 (MGT 355) Foundations of Organizational Behavior. F, W, S.
Credits: 4
The individual, interpersonal and group relations, and intergroup and organizational problems in business. Open only to Business Administration students.

MAN 4201 (MGT 410) Principles of Organization. F, W, S, SS.
Credits: 4; Prereq: MGT 310
The process of combining the factors of production through a functional structure to achieve enterprise objectives.

MAN 4600 (MGT 430) International Management. F, W, S.
Credits: 4; Prereq: MGT 310
The managerial problems of planning, organization and control in firms engaging in international business.

MAN 4310 (MGT 450) Problems in Personnel Management. F, W, S, SS.
Credits: 4; Prereq: MGT 410 or consent of instructor.
Personnel practices and interpersonal relationships involved in managing employees.

††Grading is on a S-U basis only.

Descriptions

MARKETING

MAN 4109 (MGT 455) Applications Organizational Behavior. F, S.
Credits: 4; Prereq: MGT 355
An in-depth Examination of current applications of organizational theory and research in modern organizations. May be repeated with change of content up to a maximum of 8 credits.

MAN 4410 (MGT 460) Collective Bargaining. F, S, SS.
Credits: 4; Prereq: MGT 450 or consent of instructor.
The practice and techniques of collective bargaining with respect to the interrelationships of the individual worker, the union, the employer, and the general public.

QMB 4701 (MGT 470) Managerial Operations Analysis 1. F, W.
Credits: 4; Prereq: BA 300.
Introductory survey of input-output analysis, linear programming, and the theory of games and their application in business decisionmaking.

QMB 4702 (MGT 471) Managerial Operations Analysis II. S.
Credits: 4; Prereq: MGT 470 or MGT 570 or consent of instructor.
Case studies of managerial applications of modern techniques of mathematical programming, statistical analysis, and economic analysis.

QMB 4703 (MGT 472) Managerial Operations Analysis III. F, W, S, SS.
Credits: 4; Prereq: BA 300 or MS 211 or consent of instructor.
Concepts and technique of the simulation approach applied to complex managerial problems.

MAN 4720 (MGT 480) Business Policies. F, S.
Credits: 4
Business policies correlating the functions of sales, procurement, personnel and finance in various industries. Open only to Seniors and graduate students.

MAN 4052 (MGT 481) Management Philosophy and Practice. W, SS.
Credits: 4; Prereq: Management major or consent of instructor.
Contrasting philosophies of management. Leading management theories. Current issues in management practices.

MAN 4905 (MGT 496) Indivdual work in Management.
Credits: 1 to 5: Prereq: Senior standing and permission of Department. A written report is required.

GRADUATE COURSES

MAN 5205 (MGT 510) Foundations of Management and Organizational Behavior.
Credits: 4

MAN 5511 (MGT 570) Production Management Problems.
Credits: 5

MAN 6051 (MGT 610) Managerial Planning.
Credits: 4

MAN 6207 (MGT 611) Theory of Managerial Organization and Control.
Credits: 4; Prereq: BA 673.

MAN 6206 (MGT 612) Organizational Behavior.
Credits: 4; Prereq: BA 673.

MAN 6933 (MGT 614) Seminar in Management.
Credits: 4

(MGT 615) Motivation in Organizational Settings.
Credits: 4; Prereq: BA 673 or equivalent and consent of instructor.

(MGT 616) Theory and Skills of Organization Development.
Credits: 4; Prereq: BA 673 or equivalent and consent of in0tructor.

MAN 6321 (MGT 650) Personnel Techniques and Administration.
Credits: 4

MAN 6421 (MGT 660) Problems in Collective Bargaining.
Credits: 4

QMB 6827 (MGT 670) Linear Programming for Management Scientists.
Credits: 3; Prereq: MGT 570.

QMB 6607 (MGT 671) Decision Processes Under Uncertainty.
Credits: 5; Prereq: STA 440, 441.

QMB 6697 (MGT 672) Optimization in Simulation Modeling.
Credits: 3; rereq: MGT 572.

QMB 6857 (MGT 673) Optimization in Static Managerial Models.
Credits: 4; Prereq: MGT 570.

QMB 6865 (MGT 674) Optimization in Dynamic Managerial Decision Models.
Credits: 4; Prereq: MGT 673.

QMB 6877 (MGT 675) Optimization in Discrete Managerial Decisions.
Credits: 2; Prereq: MGT 570.

QMB 6837 (MGT 676) Graphs and Networks in Managerial Decision Models.
Credits: 1; Prereq: MGT 570.

QMB 6808 (MGT 677) Markov Decision Processes.
Credits: 4; Prereq: STA 440.

QMB 6809 (MGT 678) Decision Processes Under Conflict.
Credits: 3; Prereq: MGT 570.

MAN 6931 (MGT 690) Special Topics in Management.
Credits: 4

MAN 6974 (MGT 691) Management Research and Reports.
Credits: 2: Prereq: BA 690.

MAN 6905 (MGT 696) Individual Work in Management.
Credits: 1 to 5

MAN 6910 (MGT 697) Supervised Research.
Credits: 1 to 5††

MAN 6930 (MGT 698) Supervised Teaching.
Credits: 1 to 5††

MAN 6974 (MGT 699) Master's Research.
Credits: 1 to 15††

MAN 7925 (MGT 790) Workshop in Management.
Credits: 3; Prereq: MGT 510, MGT 570, BA 673, BA 664 or equivalent.

MAN 7980 (MGT 799) Doctoral Research.
Credits: 1 to 15††

††Grading is on a S-U basis only.

MARKETING
College of Business Administration

INSTRUCTIONAL STAFF 1976-77
Cohen, J.B., Chairman; Ahtola, O.T.; Anderson, A.A.; Bechtel, G.G.; Butterworth, J.D.; Faricy, J.H.; Hess, N.R.; Lambert, Z.V.; LaTour, S.A.; Mazis, M.B.; Thompson, R.B.; Wildt, A.R.; Wilkie, W.L.

Courses numbered 300 or higher are open only to students with junior standing. Note, however, the specific prerequisites for certain courses.

For additional courses, please consult the Business Administration (BA) listing.

MAR 3023 (MKG 331) Principles of Marketing, F, W, S, SS.
Credits: 4
Functions, institutions, and methods of marketing goods and services. Relates marketing to the total economic structure and emphasizes the importance of the consumer.

MAR 3503 (MKG 352) Consumer Behavior, F, W, S, SS.
Credits: 4; Prereq: MKG 331
An analysis of the buying process focusing on the social, psychological, family and economic determinants of consumer choice.

MAR 3203 (MKG 362) Marketing Channels. F, W, S.
Credits: 4; Prereq: MKG 331
Types, functions, and operating problems of wholesale and retail middlemen.

MAR 4243 (MKG 421) International Marketing. F, W, S.
Credits: 4; Prereq: MKG 331
The marketing aspects of successful foreign market penetration.

MAR 4713 (MKG 431) Marketing Management. F, W, S, SS.
Credits: 4; Prereq: Senior standing and MKG 471.
Marketing policies and methods, including product and brand development, channels of distribution, promotion and pricing.

MAR 4403 (MKG 441) Sales Management. F, S.
Credits: 4; Prereq: MKG 331
Principles, methods, and problems relating to the management of a sales force. Selection and training, organization, compensation and stimulation, and control.

MAR 4343 (MKG 451) Promotion Management. F, W, S.
Credits: 4; Prereq: MKG 352
The management of personal and non-personal communications in the marketing process. Includes the planning and integration of promotional programs with other marketing activities.

MAR 4153 (MKG 461) Retail Management. F, S.
Credits: 4; Prereq: MKG 331
A case course designed to train students in the analysis and solution of retail merchandising and operating problems.

MAR 4613 (MKG 471) Marketing Research. F, W, S, SS.
Credits: 4; Prereq: MKG 331, BA 300.
Research methods applied to marketing; introduction to sampling; collection, analysis, and reporting of data; survey of sales forecasting, market analysis, distribution cost analysis.

MAR 4614 (MKG 472) Advanced Marketing Research, S.
Credits: 4, Prereq: MKG 471
Design and execution of marketing research studies with emphasis on primary data collection and analysis.

MAR 4763 (MKG 481) Credit and Collections. W.
Credits: 4; Prereq: MKG 331.
Principles and practices in the administration of consumer and mercantile credit.

MAR 4213 (MKG 491) Physical Distribution Management. F, W, S.
Credits: 4; Prereq: MKG 331, MKG 362.
Nature, organization and administration of physical distribution systems.

MAR 4933 (MKG 493) Special Topics in Marketing. W, S.
Credits: 4; Prereq: Permission of Department.
Selected rotating topics in marketing management, research, and theory. May be repeated with a change of content up to a maximum of 8 credits.

MAR 4913 (MKG 496) Independent Study. F,W,S,SS.
Credits: 1 to 5; Prereq: Senior standing and previous work in the area selected for research. Admission is by consent of the department.

GRADUATE COURSES

MAR 5055 (MKG 531) Marketing Principles and Institutions.
Credits: 3

MAR 6246 (MKG 621) International Marketing
Credits: 5

MAR 6806 (MKG 631) Seminar in Marketing Theory.
Credits: 5

MAR 6717 (MKG 639) Seminar in Marketing Management.
Credits: 5

MAR 6506 (MKG 652) Consumer Behavior.
Credits: 5

MAR 6516 (MKG 665) Public Policy Research and Marketing Practices.
Credits: 5

MAR 6616 (MKG 671) Seminar in Marketing Research.
Credits: 5

MAR 6606 (MKG 673) Quantitative Analysis for Marketing Decisions.
Credits: 5

MAR 6933 (MKG 690) Special Topics in Marketing.
Credits: 5

MAR 6618 (MKG 691) Marketing Research and Reports.
Credits: 2; Prereq: BA 690

MAR 6916 (MKG 696) Individual Work. F,W,S,SS.
Credits: 1 to 5; Maximum of 10 credits.

MAR 6918 (MKG 697) Supervised Research.
Credits: 1 to 5††

MAR 6940 (MKG 698) Supervised Teaching.
Credits: 1 to 5††

MAR 6971 (MKG 699) Master's Research.
Credits: 1 to 15††

MAR 7518 (MKG 752) Consumer Information Processing and Decision Making.
Credits: 5

MAR 7628 (MKG 774) Multidimensional Scaling for Market and Societal Analysis.
Credits: 5 (Ident with PSY 718)

MAR 7639 (MKG 790) Workshop in Marketing Research.
Credits: 4; May be repeated with a change of content up to a maximum of 12 credits.

MAR 7972 (MKG 799) Doctoral Research.
Credits: 1 to 15††

MATERIALS SCIENCE AND ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1976-77

Verink, E.D., Jr., Chairman; Bates, S.R.; Connell, R.G., Jr. DeHoff, R.T.; Dove, D.B.; Goldberg, E.P.; Gould, R.W.; Guy, A.G.; Hartley, C.S.; Hench, L.L.; Hren, J.J.; Hummel, R.E.; Loehman, R.E.; Onoda, G.Y., Jr.; Pepinsky, R.; Reed-Hill, R.E.; Rhines, F.N.; Rummel, R.A.; Whitney, E.D.

EMA 1020 (MSE 100) Everyday Utilization of Metals. W, S.
Credits: 2
Metals application in a technological society, conservation of metals, in light of limited natural resources, properties of metals and alloys, metal working and fabrication techniques.

EMA 3010 L (MSE 300) Materials 1. F, W, S, SS.
Credits: 1 to 6; Prereq: CY 211 or CY 202
Elements of crystallography, plasticity, properties of aggregates, structure of polymers, binary phase diagrams and physical properties of solids.

EMA 3012 L (MSE 301) Materials 1 Laboratory. F, W, S, SS.
Credits: 1; Prereq. or Coreq.: MSE 300
Experiments in crystallography, mechanical properties, phase diagrams, heat-treatment of steels, Designed to accompany or follow MSE 300 Units on structure and mechanical properties.

EMA 3123 (MSE 302) Metallurgical Engineering. F.
Credits: 3; Prereq: MSE 300; Coreq: MSE 350.
Preparation, structure, properties and applications of ferrous materials.

EMA 3050 (MSE 303) Introduction to Ceramic Materials. W.
Credits: 3; Prereq: MSE 302.
Uses, structure, processing and properties of ceramic materials. Scientific principles are introduced through discussion of recently developed ceramics for high technology applications.

EMA 3066 (MSE 304) Polymer Science and Engineering. S.
Credits: 3; Prereq: MSE 303. Organic Chemistry desirable.
Introduction to preparation, molecular structure-property relationships, processing and applications of macromolecular materials.

EMA 3413 (MSE 310) Electronic Properties of Materials. S.
Credits: 3; Prereq: MSE 300.
Band model description of the electrical, magnetic and optical properties of solids.

EMA 3080 (MSE 350) Phase Diagrams. F.
Credits: 3; Prereq: MSE 300.
Construction and use of phase diagrams in materials science; descriptive introduction to the thermodynamics of phase diagrams.

EMA 3513 (MSE 360) Analysis of the Structure of Materials. W.
Credits: 3; Prereq: MSE 300.
Crystal structure and bonding in solids with an overview of the tools available for characterizing materials.

EMA 3040 L (MSE 380) Ceramic Science for the Potter. F, S.
Credits: 2
Introduction to scientific principles of forming, drying, and firing various types of pottery. Analyses of good and bad ceramic bodies and glazes using engineering methods to help improve the artist's technique.

EMA 3622 L (MSE 390) Materials Processing Laboratory. F.
Credits: 1
Preparation, fabrication and processing of metal, ceramic and polymeric materials.

ETG 3530 L (MSE 391) Mechanical Testing Laboratory. W.
Credits: 1
Experiments in determining the mechanical behavior of metal, ceramic and polymeric materials.

ETG 3531 (MSE 392) Physical Testing Labratory. S.
Credits: 1
Measurement of physical properties of metal, ceramics, and polymeric materials: thermal, electrical, magnetic, optical and radioactive behavior.

EMA 4121 (MSE 401) Materials 2. W.
Credits: 3; Prereq: MSE 300.
Physical metallurgy of ferrous and non-ferrous metals and their alloys. A correlation of properties, structural and mechanical history, thermal history, and service behavior of the various metal and their alloys.

EMA 4122 (MSE 402) Materials 3. S.
Credits: 3; Prereq: MSE 401
Continuation of MSE 401.

EMA 4124 (MSE 420) Structure and Properties of Alloys. F.
Credits: 3; Prereq: MSE 300
Quantitative metallography, topology of structures, cast structures, diffusion in solids.

EMA 4125 (MSE 421) Microstructural Transformations in Materials. W.
Credits: 3; Prerq: MSE 452.
Paths, energetics, mechanisms and kinetics of processes that alter the microstructure of materials.

EMA 4714 (MSE 422) Materials Selection and Failure Analysis. S.
Credits: 4
Philosophy and practice of engineering selection of materials. Case studies in product liability and failure analysis.

EMA 4223 L (MSE 440) Mechanical Behavior of Materials. F.
Credits: 4; Prereq: ESM 303.
Plastic deformation and fracture of metals and alloys, ceramics and polymers.

EMA 4224 (MSE 441) Mechanical Metallurgy 2. W.
Credits: 3; Prereq: MSE 440
Continuation of MSE 440.

EMA 4634 L (MSE 442) Metal Forming. S.
Credits: 4
Application of theories of elastic and plastic behavior and fracture to metal forming processes, Forging, rolling, extrusion, wire drawing, sheet metal forming. Laboratory included.

EMA 4623 (MSE 450) Process Metallurgy 1. W.
Credits: 3; Prereq: PS 217 and CY 213 or CY 204.
Principles of pyrometallurgy, hydrometallurgy and electrometallurgy, with applications to specific ferrous and non-ferrous metals.

EMA 4624 (MSE 451) Process Metallurgy 2. S.
Credits: 3; Prereq: MSE 450.
Unit operations of process metallurgy including: comminution, classification, flotation, stoichiometry, heat balances, fuels and heat utilization.

EMA 4314 (MSE 452) Energetics and Kinetics in Materials Science. F.
Credits: 4; Prereq: ME 360 or CY 452.
Foundations of energetics and kinetic theory with applications to processes in materials science.

EMA 4324 (MSE 453) Stability of Materials. W.
Credits: 4; Prereq: ME 360 CY 452 or permission of instructor.
Mechanisms, energetics and kinetics of corrosion and degradation of engineering materials. Economic solutions to degradation problems based upon design and materials selection.

††Grading is on a S-U basis only.

Descriptions

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EMA 4524 L (MSE 461) X-ray and Electron Metallography. S.
Credits: 4
X-ray and electron scattering and diffraction with applications to problems in materials analysis. Laboratory included.

EMA 4940 (MSE 471) Field Trips in Materials Science. W.
Credits: 1
Field trips to materials preparation and processing industries in the southeastern states.

EMA 4643 L (MSE 480) Ceramic Glazes. W.
Credits: 4; Prereq: MSE 380.
Glaze calculations and formulations using programmed instruction assuming little math background. Laboratory to create new individualized glazes.

EMA 4144 (MSE 481) Physical Characteristics of Ceramics. F.
Credits: 3; Prereq: MSE 480 or consent of instructor.
Structure of complex ceramic compounds and glasses. Influence of structural imperfections and stoichiometry on physical characteristics, surface and interfacial phenomena, diffusion and phase transformations in ceramic systems.

EMA 4145 (MSE 482) Ceramic Microstructures. W.
Credits: 3; Prerq: MSE 480 or consent of instructor.
Influence of ceramic microstructure on processing. Chemical bonds, surface phenomena, forming energetics, drying and firing kinetics. Diffusion, nucleation, crystal growth, solid-solid and solid-liquid reactions.

EMA 4444 (MSE 483) Electronic Ceramics. S.
Credits: 3; Prereq: MSE 480 or consent of instructor.
An introduction to the electronic, optical, thermal and magnetic properties of non-metallic materials. Special emphasis on important ceramic systems and effect of processing on properties.

EMA 4645 C (MSE 484) Processing of Ceramic Materials. F.
Credits: 3
Introduction to the technology and science of processing ceramic materials, including traditional clay-based ceramics, modern technical ceramics, and glasses. Topics include the nature of fine particles, forming methods, and consolidation by heat.

EMA 4522 L (MSE 491) Metallurgy Laboratory 2 — Metallography and Photography. W.
Credits: 1
Laboratory techniques in physical metallurgy with practical emphasis on the surface preparation and photographic recording of the structure of materials. Includes heat treatment, quenching, mechanical forming and mechanical testing of metals and alloys.

EMA 4632 L (MSE 492) Metallurgy Laboratory 3 — Welding, Brazing, Soldering. S.
Credits: 1
Laboratory techniques involved in various welding and cutting processes; soft soldering, brazing and braze welding. Includes testing and inspection of welds.

EMA 4913 (MSE 493) Research in Materials Science and Engineering 1. F, W, S, SS.
Credits: 3
Short research problems in materials science and engineering, usually including a final thesis.

EMA 4914 (MSE 494) Research in Materials Science and Engineering 2. F, W, S, SS.
Credits: 3; Prereq.: MSE 493.
Continuation of MSE 493.

††Grading is on a S-U basis only.

EMA 4935 (MSE 496) Special Topics in Materials Science and Engineering. F, W, S, SS.
Credits: 1 to 4; Maximum of 12 credits; Prereq: Graduate standing or permission of instructor for Seniors.
Laboratory, lectures, or conferences covering specially selected topics in materials science and engineering. May be repeated with change of content.

EMA 4933 (MSE 498) Special Problems in Materials Science and Engineering. F, W, S, SS.
Credits: 1 to 6. Maximum of 12 credits; Prereq.: Recommendation of the Department Chairman.
Selected problems or projects in the student's major field of engineering study. May be repeated for credit with change of content.

EMA 4944 (MSE 499) Co-op Work Experience. F, W, S, SS.
Credits: 1 to 5; Prereq: 4EG classification; one term industrial employment, including extra work according to a pre-approved outline.
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

GRADUATE COURSES

EMA 6106 (MSE 601) Advanced Phase Diagrams 1.
Credits: 3

EMA 6107 (MSE 602) Advanced Phase Diagrams 2.
Credits: 3

EMA 6110 (MSE 610) Electron Theory of Solids for Materials Scientists 1.
Credits: 4

EMA 6111 (MSE 611) Electron Theory of Solids for Materials Scientists 2.
Credits: 4

EMA 6112 (MSE 612) Electron Theory of Solids for Materials Scientists 3.
Credits: 4

EMA 6436 (MSE 615) Optical Instruments in Materials Research.
Credits: 3

EMA 6437 (MSE 617) Growth, Structure and Properties of Thin Films.
Credits: 3

EMA 6126 (MSE 620) Advanced Physical Metallurgy 1.
Credits: 4

EMA 6127 (MSE 621) Advanced Physical Metallurgy 2.
Credits: 4

EMA 6128 (MSE 622) Advanced Physical Metallurgy 3.
Credits: 4

EMA 6136 (MSE 625) Diffusion in Solids.
Credits: 3

EMA 6137 (MSE 630) Radiation Damage in Solids.
Credits: 3

EMA 6226 (MSE 640) Advanced Mechanical Metallurgy 1.
Credits: 4

EMA 6227 (MSE 641) Advanced Mechanical Metallurgy 2.
Credits: 4

EMA 6316 (MSE 650) Metallurgical Thermodynamics.
Credits: 3

EMA 6326 (MSE 651) Advanced Topics in Corrosion.
Credits: 3

EMA 6516 (MSE 660) Advanced X-Ray Diffraction 1.
Credits: 4

EMA 6517 (MSE 661) Advanced X-Ray Diffraction 2.
Credits: 3

EMA 6518 L (MSE 662) Transmission Electron Microscopy.
Credits: 4

EMA 6519 L (MSE 663) Specialized Research Techniques in Materials Science.
Credits: 1 to 3; Maximum of 15 credits.

EMA 6507 C (MSE 664) Scanning Electron Microscopy and Electron Probe Microanalysis.
Credits: 4

EMA 6514 L (MSE 665) X-ray Spectrochemical Analysis.
Credits: 4

EMA 6508 (MSE 667) Quantitative Microscopy.
Credits: 3

EMA 6936 (MSE 670) Seminar in Metallurgy.
Credits: 1††

EMA 6937 (MSE 671) Seminar in Metallurgy and Ceramic Science.
Credits: 1 to 2

EMA 6146 (MSE 680) Atomic Processes in Crystalline Ceramics.
Credits: 4

EMA 6446 (MSE 681) Electronic Processes in Crystalline Ceramics.
Credits: 4

EMA 6147 (MSE 682) Structure and Properties of Glasses.
Credits: 4

EMA 6448 (MSE 683) Ceramic Processing.
Credits: 4

EMA 6580 (MSE 685) Science of Biomaterials 1.
Credits: 3

EMA 6581 (MSE 686) Science of Biomaterials 2.
Credits: 3

EMA 6938 (MSE 696) Special Topics in Materials Science and Engineering.
Credits: 1 to 6; May be repeated with change of content up to a maximum of 9 credits.

EMA 6919 (MSE 697) Supervised Research.
Credits: 1 to 5††

EMA 6909 (MSE 698) Supervised Teaching.
Credits: 1 to 5††

EMA 6971 (MSE 699) Master's Research.
Credits: 1 to 15††

EMA 7008 (MSE 701) Product Liability: Effective Use of Engineering Experts.
Credits: 3

EMA 7980 (MSE 799) Doctoral Research
Credits: 1 to 15††

MATHEMATICS
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77
Bednarek, A.R., Chairman; PopStojanovic, Z.R.; Assoc. Chairman; Bacon, P.; Baird, B.B.; Blevins, D.K.; Block, L.; Bowman, T.T.; Brechner, B.L.; Brooks, J.K.; Burnap, C.A.; Cenzer, D.A.; Chen, S.; Dinculeanu, N.; Drake, D.A.; Draper, J.A.; Edwards, B.H.; Farmer, K.B.; Hale, M.P.; Kallman, R.R.; Kalman, R.E.; Keesling, J.E.; Kim, D.S.; Larson, J.A.; Long, R.L.; Luehr, C.P.; Martinez, J.; Mauldin, R.D.;

Moore, T.O.; Nelson, C.W.; Nummela, E.C.; Popov, V.M.; Ritter, G.A.; Ritter, G.X.; Row, A.W.; Saxon, S.A.; Scott, M.W.; Sigmon, K.N.; Slagle, J.G.; Teply, M.L.; Ulam, S.M.; Varma, A.K.; Walsh, T.; White, N.L.; Willard, D.; Wilson, D.C.; Yoh, R.; Zarantonello, S.E.

I. General Information

Students whose mathematical background is weak should take MS 102. Others may take one of the calculus courses as follows: Architectural students MS 201, Business Administration students MS 301, Engineering and Science students MS 301, Mathematics Education students MS 301, Mathematics majors MS 345. Superior students may substitute MS 345 for MS 301. Students who have had calculus in high school should consult with one of the departmental advisers.

II. Program for Mathematics Majors

Courses	Credits
1. Calculus 345-6-7 (or 301-2-3)	15
2. Algebra 427-8, 431-2	14
3. Analysis 445-6-7	9
4. Electives from list below	13
Total	51

Electives: MS 304, 305, 307, 313, 324, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 429, 433, 455, 456, 457.

III. Baccalaureate Honors Program

To earn Baccalaureate Honors a student shall:

A. Take the following courses:

Courses	Credits
1. Calculus 345-6-7 (or 301-2-3)	15
2. Algebra 427-8, 431-2	14
3. Analysis 445-6-7 (or 441-2-3 or 467-8-9)	9
4. Set Theory 451, Topology 452, 3	12
5. Electives from list given in II	10
Total	60

B. Earn at the University of Florida at least 20 credits in mathematics courses of 400 level or above including MS 451-2-3.

C. Have a grade point average of 3.3 or higher in all mathematics courses of 400 level or above taken at the University of Florida.

D. Have a grade point average of 3.3 or higher in upper division work.

IV. Mathematics Education Program

The *Mathematics Education Program* is for students wishing to receive a degree in Mathematics through the College of Arts and Sciences while simultaneously getting accreditation for teaching secondary mathematics. The minimum mathematics requirements are:

	Credit Hours
1. Calculus 301-2-3 (or 345-6-7)	15
2. Algebra 325-26 (or 431-32)	6
3. Geometry 320-21	6
4. Electives, chosen from below	13
Total	40

Electives: MS 313, 322, 324, 433, 400, 401, 402, 405, 445-6-7, STA 320 or 440, STA 401, ISE 350 or CIS 302, CIS 311, or other mathematics courses chosen with the advice of a counselor.

In addition, the Mathematics Education major must take the following Education courses (though only 24 hours of this counts toward minimum required hours for graduation):

	Credit Hours
EDF 342	5
EDF 300 or 320 or 410 or 431	5
EDS 400	5
EDS 403	4
EDS 454	5
EDS 405	16

NOTE: A student wishing to change from one program to another should consult a mathematics adviser as to which courses in the various programs are interchangeable. However no credit toward the major will be given for both MS 431 and MS 325 or for both MS 432 and MS 326.

(MS 100) Precalculus Algebra. F, W, S, SS.
Credits: 4
Elementary algebra, functions, and coordinate systems. Admission limited to students in special services programs.

MAT 1033 (MS 101) Basic Algebra. F, W, S, SS.
Credits: 2
A self-paced audio-tutorial course for students with deficiencies in algebra. Topics include real numbers, solving linear and quadratic equations, radicals, exponents, graphing, and logarithms,. Information and placement materials are available from the Department office and Learning Laboratory of the Office of Instructional Resources.

MAC 1132 (MS 102) Algebra and Trigonometry. F, W, S, SS.
Credits: 5
Elementary Algebra, Functions and Coordinate Geometry, and Trigonometry. Does not count as major credit in mathematics. This course is especially important for students planning to take calculus and who do not have the necessary algebra ad trigonometry background.

MAC 1131 (MS 103) Self-paced Algebra and Trigonometry. F, W, S, SS.
Credits: 3
A self-paced continuation of MS 101. Topics include algebra, coordinate geometry, and trigonometry. MS 101 and MS 103 together are equivalent to MS 102. Information and placement materials available from Mathematics Department or Language Laboratory, 103 ASB.

MAC 2144 (MS 200) Trigonometry and Analytic Geometry. F, W, S, SS.
Credits: 3; Prereq: MS 100
Trigonometry functions, triangles, trigonometric identities; plane analytic geometry, lines and circles, functions and limits. Admission limited to students in special services programs.

MAC 2223 (MS 201) Analytic Geometry and Calculus for Architecture. F, W, S, SS.
Credits: 5
A geometric and heuristic approach to plane analytic geometry and calculus. Includes both differentiation and integration of simple algebraic and trigonometric functions including the finding of moments and centroids and the interpretation of derivatives and integrals.

MAC 2233 (MS 204) Calculus for Economics and Business. F, W, S, SS.
Credits: 5
Topics include differential calculus, introduction to integration, introduction to partial differentiation, maxima ad minima problems.

MGF 2202 (MS 211) Basic Mathematics for the Social Sciences. F, W, S, SS.
Credits: 4
Introductory course in the following topics; Compound statements, set and subsets, partitions and counting, probability theory, vectors and matrices, and linear programming.

MTB 3364 (MS 300) Introduction to Metric System. F, W, S, SS.
Credits: 1
Metric measures and their relationship to the other systems of measures.

MAC 3311 (MS 301) Analytic Geometry and Calculus 1. F, W, S, SS.
Credits: 5
Introduction to analytic geometry, limits, derivatives of algebraic functions, differentials, and applications.

MAC 3312 (MS 302) Analytic Geometry and Calculus 2. F, W, S, SS.
Credits: 5; Prereq.: MS 301.
The definite integral, the indefinite integral and antiderivative, the fundamental theorem of integral calculus, transcental functions, their derivative and integrals, and applications.

MAC 3313 (MS 303) Analytic Geometry and Calculus 3. F, W, S, SS.
Credits: 5; Prereq.: MS 302.
Methods of integration, polar coordinates, parametric equations, infinite series, and applications.

MAC 3314 (MS 304) Analytic Geometry and Calculus 4. F, W, S, SS.
Credits: 5; Prereq.: MS 303
Solid analytic geometry, vectors, partial derivatives, multiple integrals.

MAP 3302 (MS 305) Elementary Differential Equations. F, W, S, SS.
Credits: 3; Prereq.: MS 303.
First order differential equations, general theorems on linear differential equations, solution of second order linear equations with constant coefficients, the Laplace transform, solution of equations by the Laplace transform.

MAC 3224 (MS 306) Advanced Calculus for Architecture. F,S.
Credits: 4; Prereq.: MS 201 or equivalent.
To be scheduled by students choosing to enter any of the graduate Architectural Technology Programs. A continuation of MS 201 with further studies in partial differentiation, multiple integration, some elements of vector analysis, matrix theory and determinants, some elements of differential equations.

MHF 3202 (MS 307) Sets and Logic..F,W,S,SS.
Credits: 4
Examples of sets, operations on sets, set algebra, Venn diagrams, truth tables, tautologies, applications to mathematical arguments and mathematical induction.

(MS 308) Differential Calculus. F,W,S,SS.
Credits: 4; Prereq: MS 200
Derivatives, differentiation formulas, curve sketching; applications of derivatives. Admission limited to students in special services programs.

MAE 3810 (MS 310) Mathematics for Elementary School Teachers 1. F,S,W,SS.
Credits: 3
A study of the structure of whole numbers and newer mathematical topics included in modern elementary school mathematics programs.

MAE 3811 (MS 311) Mathematics for Elementary School Teachers 2. F,W,S,SS.
Credits: 3; Prereq.: MS 310
Properties and operations of rational numbers, ratio, proportion, per cent, and an introduction to real numbers.

MAE 3812 (MS 312) Mathematics for Elementary School Teachers 3. W,S,SS.
Credits: 3; Prereq.: MS 311 or by permission of the instructor.
Topics include an introduction to equations, inequalities, and geometry as these topics are related to modern elementary mathematics programs, and the nature of mathematical systems.

MAS 3203 (MS 313) Introduction to Number Theory. S,SS.
Credits: 3; Prereq.: 9 hours of mathematics.
Divisibility, primes and composites, divisors, multiples, Euclid's algorithm, Diophantine equations, modular arithmetic, and simple continued fractions.

MAE 3822 (MS 316) Mathematics for Junior High School Mathematics Teachers 1. SS.
Credits: 3
An analysis and extension of concepts included

in modern junior high school mathematics programs such as state adopted texts or SMSG material 7, 8 and 9. Topics include sets, properties and operations of the real numbers, numeration systems and bases, additional work in ratios and proportion, percentage, aspects of measurement and geometry, and number congruences.

MAE 3823 (MS 317) Mathematics for Junior High School Mathematics Teachers 2. SS.
Credits: 3; Prereq.: MS 316.
A continuation of MS 316.

MAD 3104 (MS 318) Discrete Structures. F, W, S, SS.
Credits: 4
Set algebra, functions, and relations. Induction and recursion Propositional and predicate logic. Topics from modern algebra. Graphs, algorithms and flow diagrams. Applications to CIS.

MTG 3212 (MS 320) Geometry 1. F,W,SS.
Credits: 3; Prereq.: 6 hours of mathematics.
A systematic study of the axiomatic structure of Euclidean geometry, including a comparison of the metric (Birkhoff) and synthetic (Hilbert) developments of absolute geometry; parallelism, similarity, area, lines and planes inspace, solid mensuration.

MTG 3213 (MS 321) Geometry 2. W,S.
Credits: 3; Prereq.: MS 320 or permission of the instructor.
A continuation of MS 320.

MTG 3214 (MS 322) Geometry 3. S.
Credits: 3; Prereq.: MS 321 or permission of the instructor.
A continuation of MS 321. This course also includes an introduction to Non-Euclidean geometry.

(MS 324) Matrices and Vector Spaces. F,W,S,SS.
Credits: 4; Prereq.: MS 301 or 201 or 400.
Linear equations and matrices; elementary determinants. Linear geometry of Euclidean space; vector spaces and linear transformations.

MAS 3301 (MS 325) Introduction to Abstract Algebra. F,S,SS.
Credits: 3; Prereq.: MS 301 or 201 or 400.
Properties of the natural numbers, intergers, and rational numbers, Groups, semigroups, rings, integral domains, fields, isomorphisms, homomorphisms, and equivalence classes.

MAS 3302 (MS 326) Abstract Algebra, F,W,SS.
Credits: 3; Prereq.: MS 325.
A continuation of MS 325.

MAS 3114 (MS 328) Computational Linear Algebra. F,W.
Credits: 4; Prereq.: MS 302
Linear equations, matrices and determinants. Vector spaces and linear transformations. Inner products and eigenvalues. This course emphasizes computational aspects of linear algebra.

MAE 3836 (MS 330) Calculus for Teachers 1.
Credits: 3; Offered by extension only. Prereq.: A basic course in calculus or permission of the instructor.
Designed as an off-campus and in-service course. Limits; continuity; differentiation of algebraic, trigonometric, exponential, and logarithmic functions; derivatives, antiderivatives, curve tracing, and series.

MAE 3837 (MS 331) Calculus for Teachers 2.
Credits: 3; Offered by extension only. Prereq.: MS 330.
A continuation of MS 330.

MAE 3838 (MS 332) Calculus for Teachers 3.
Credits: 3; Offered by extension only. Prereq.: MS 331.
A continuation of MS 331.

MAC 3472 (MS 345) Introduction to Real Analysis 1. F.W.
Credits: 5
A first course in calculus for students who particularly enjoy the mathematics and have a sound background in high school mathematics; MS 345-6-7 includes the topics differentation and integration of functions of one or more variables, convergence of sequences and series, continuity, uniform continuity and uniform convergence.

MAC 3473 (MS 346) Introduction to Real Analysis 2. W,S.
Credits: 5; Prereq.: MS 345.

MAC 3474 (MS 347) Introduction to Real Analysis 3. S,SS.
Credits: 5; Prereq.: MS 346.

MAE 4830 (MS 400) Mathematics for Senior High School Teachers 1. F,SS.
Credits: 4; Prereq.: 9 hours of college mathematics or permission of instructor.
Logic; nature of proof; the ordered field of real numbers; sequences, series and the limit concept; relations and functions; complex numbers.

MAE 4831 (MS 401) Mathematics for Senior High School Teachers 2. W, SS.
Credits: 4; Prereq.: MS 400 or permission of instructor.
Algebra or vectors; limits, continuity and derivations; exponential, logarithmic and circular functions; probability.

MAE 4870 (MS 402) Topology for Senior High School Teachers. W.
Credits: 4
Introductory survey course covering the following topics: Sets and functions, metric spaces, topological spaces, compactness, connectedness, and separation properties. Emphasis is placed on metric topologies.

MHF 4404 (MS 405) History of Mathematics. F,SS.
Credits: 3; Prereq.: 12 hours of mathematics or permission of instructor.
A survey of the historical development of precalculus mathematics.

MAS 4115 (MS 406) Advanced Matrix Theory.
Credits: 4; Prereq.: MS 427-428 or a solid foundation in basic matrix theory, or consent of the instructor.
Matrix theory at an advanced level. Generalized eigenvalues, simultaneous diagonalization, generalized and conditional inverses, trace theorems, inequalities, properties of special matrices, perturbation theory, selected topics.

(MS 407) Fourier Series and Transforms 1. W.
Credits: 4; Prereq.: MS 305. Rec.: MS 409.
A two quarter introduction to Fourier series, Orthogonal systems in general. Convergence of Fourier series and various expansions. Laplace, Fourier and Z transforms and their mutual relationship, convolutions. Operational calculus, computational methods including the fast Fourier transform, second order stationary processes, their auto-correlation functions, and problems of interpolation, extrapolation, filtering and smoothing for second order stationary processes.

MAP 4414 (MS 408) Fourier Series and Transforms 2. S.
Credits: 4: Prereq.: MS 407.
A continuation of MS 407.

MAP 4305 (MS 409) Introduction to Differential Equations for Engineers and Physical Scientists. F,W,S,SS.
Credits: 3; Prereq.: MS 305.
Series solutions of differential equations, Sturm-Liouville Systems.

MAS 4124 (MS 410) Numerical Methods in Linear Algebra. F, S.
Credits: 3; Prereq.: MS 324, MS 328 or 427.
Solution of linear equations, matrix methods, matrix eigenvalue problems. Introduction to computer methods.

MAD 4401 (MS 411) Numerical Methods in Analysis. W,SS.
Credits: 3; Prereq.: MS 305.
Numerical integration and differentiation, differential equations, partial differential equations, harmonic analysis.

MAS 4156 (MS 412) Introduction to Vector Analysis. F,W,S.
Credits: 3; Prereq.: MS 304.
Vector analysis including the integral theorems; applications.

MAA 4402 (MS 413) Elements of Complex Variables for Engineers and Physical Scientists. F,W,S,SS.
Credits: 4; Prereq.: MS 305.
Introduction to the theory of functions of a complex variable.

MAP 4423 (MS 414) Elements of Operational Calculus. W,SS.
Credits: 3
Continuation of the study of analytic functions, Fourier and Laplace transforms.

MAP 4341 (MS 415) Elements of Partial Differential Equations. F,S,SS.
Credits: 3; Prereq.: MS 305. Recommended MS 409.
Origin and solution of partial differential equations by various methods including Lagrange linear equations; elementary partial differential equations of mathematical physics.

MAS 4103 (MS 427) Linear Algebra 1. F,W.
Credits: 4; Prereq.: MS 302.
Linear equations, matrices, vector spaces, linear transformations, determinants, eigenvalues, inner product spaces, spectral theorem.

MAS 4104 (MS 428) Linear Algebra 2. W,S.
Credits: 4
A continuation of MS 427.

MAS 4105 (MS 429) Linear Algebra 3. S.
Credits: 4
Advanced undergraduate topics in linear algebra rotated from among the following: Canonical forms, geometry of inner products and quadratic forms, linear groups, multilinear algebra.

MAS 4311 (MS 431) Survey of Modern Algebra 1. F,W,S.
Credits: 3; Prereq.: MS 303, 204, 306.
Sets and mappings, the integers, rings and domains, fields, groups and subgroups, homorphisms and isomorphisms.

MAS 4312 (MS 432) Survey of Modern Algebra 2. W,S,SS.
Credits: 3; Prereq.: MS 431.
A continuation of MS 431.

MAS 4313 (MS 433) Survey of Modern Algebra 3. S,SS.
Credits: 3; Prereq.: MS 432.
Variable topics based upon material in MS 431 & 432.

MAA 4226 (MS 441) Introduction to Modern Analysis 1. F.
Credits: 3
Topology of metric spaces, numerical sequences and series, continuity, differentiation, the Riemann-Stielties integral, sequences and series of functions, the Stone-Weierstrass theorem, functions of several variables, Stokes' theorem, the Lebesque theory.

MAA 4227 (MS 442) Introduction to Modern Analysis 2. W.
Credits: 3
A continuation of MS 441

MAA 4228 (MS 443) Introduction to Modern Analysis 3. S.
Credits: 3
A continuation of MS 442.

(MS 445) Intermediate Calculus 1. F,W.
Credits: 3; Prereq.: MS 303 of or 347.
Review of limits, differentiation and integration, partial differentiation, multiple integration, series, and complex numbers.

(MS 446) Intermediate Calculus 2. W,S.
Credits: 3; Prereq.: MS 445.
A continuation of MS 445.

(MS 447) Intermediate Calculus 3. S, SS.
Credits: 3: Prereq.: MS 446.
A continuation of MS 446.

MHF 4102 (MS 451) Elements of Set Theory. F.
Credits: 4: Required for Baccalaureate Honors.
The basic axioms and concepts of Set Theory

MTG 4316 (MS 452) Elements of Topology 1, W, S.
Credits: 4; Required for Baccalaureate Honors.
Continuation of MS 451. The basic concept of general topology.

MTG 4317 (MS 453) Elements of Topology 2. S, SS.
Credits: 4; Required for Baccalaureate Honors.
Continuation of MS 452.

MAD 4504 (MS 455) Computability and Unsolvability. S.
Credits: 4; (Ident. with CIS 455) Prereq.: Junior or Senior standing.
Computability, algorithms, turing machines, recursive functions, decidability, and unsolvability. A course primarily for students of mathematics, philosophy, and Computer and Information Sciences.

MTG 4233 (MS 456) Projective Planes and Related Topics I. F.
Credits: 4; Prereq.: MS 324 or 427.
Review of linear algebra; projective and affine planes: coordinization theorems, subplanes, ovals, collineations; Latin squares, nets; block designs.

MTG 4234 (MS 457) Projective Planes and Related Topics II. W.
Credits: 4; Prereq.: MS 456.
Continuation of MS 456.

MAP 4316 (MS 464) Differential Equations I. W.
Credits: 3; Prereq.: MS 543 or 447 and some linear algebra.
Existence theorems for ordinary differential equations, initial and boundary value problems.

MAP 4317 (MS 465) Differential Equations 2. S.
Credits: 3; Prereq.: MS 464.
Part of sequence 464-65.

MAA 4102 (MS 467) Introduction to Advanced Calculus 1. F, W.
Credits: 3
Foundations of calculus of functions of real variables, differentiation, Reimann-Stielties integration, multiple and line integrals, infinite series.

MAA 4103 (MS 468) Introduction to Advanced Calculus 2. W, S.
Credits: 3
A continuation of MS 467.

MAA 4104 (MS 469) Introduction to Advanced Calculus 3. S, SS.
Credits: 3
A continuation of MS 468.

MAD 4203 (MS 470) Introduction to Combinatories 1. W.
Credits: 3
Permutations and Combinations, Binomial Coefficients, Inclusion-Exclusion, Recurrence Relations, Fibonacci Sequences, Generating Functions, Graph-coloring Problems, Chromatic Polynomials, Arrangements.

MAD 4204 (MS 471) Introduction to Combinatories 2. S.
Credits: 3; [Cont. of MS 470.]
Permutations and Combinations, Binomial Coefficients, Inclusion-Exclusion, Recurrence Relations, Fibonacci Sequences, Generating Functions, Graph-coloring Problems, Chromatic Polynomials, Arrangements.

MAT 4930 (MS 490) Special Topics in Mathematics. F, W, S, SS.
Credits: 1 to 5: Prereq.: Permission of the Chairman of the Department's Undergraduate Advisory Panel who should be consulted well in advance of registration.
May be repeated for credit. Maximum of 24 credits.

MAT 4906 (MS 496) Individual Work. F, W, S, SS.
Credits: 1 to 4; Maximum of 15 credits; Prereq.: MS 303 and permission of Chairman of Department.
For special topics not obtainable in the regular course offerings. May be repeated for credit.

MAS 4321 (MS 497) Modern Applied Algebra 1. F.
Credits: 4; Prereq.: MS 303.
Sets and relations, graphs, Boolean algebra, with applicative to switching circuits and computer design.

MAS 4322 (MS 498) Modern Applied Algebra 2. W.
Credits: 4; Prereq.: MS 437 or consent of instructor.
Groups and rings with applications to groups.

GRADUATE COURSES

MAP 5304 (MS 501) Intermediate Differential Equations for Engineers and Physical Scientists. F, W, S, SS.
Credits: 3; Prereq.: MS 305.

MAS 5156 (MS 502) Vector Analysis. F, W, S, SS.
Credits: 3, Prereq.: MS 304.

MAA 5402 (MS 503) Introduction to Complex Variables for Engineers and Physical Scientists. F, W, S, SS.
Credits: 4; Prereq.: MS 305.

MAP 5423 (MS 504) Introduction to Operational Calculus. W, SS.
Credits: 3

(MS 505) Introduction to Partial Differential Equations. F, S, SS.
Credits: 3; Prereq.: MS 305, Rec.: MS 501.

MAA 5506 (MS 509) Introduction to Functional Analysis 1. F.
Credits: 4; Prereq.: One quarter of linear algebra and some analysis or consent of the instructor.

MAA 5507 (MS 510) Introduction to Functional Analysis 2. W.
Credits: 4; Prereq.: MS 509.

(MS 517) Numerical Methods of Differential Equations.
Credits: 4

MAS 5334 (MS 529) Rings, Modules and Linear Algebra.
Credits: 4 Prereq.: Undergraduate linear algebra.

MAS 5331 (MS 531) Introductory Algebra 1. F.
Credits: 3; Prereq.: MS 432 or MS 427.

MAS 5332 (MS 532) Introductory Algebra 2. W.
Credits: 3; Prereq.: MS 531.

MAS 5333 (MS 533) Introductory Algebra 3. S.
Credits: 3; Prereq: MS 532

MAA 5226 (MS 541) Modern Analysis 1. F.
Credits: 3; Prereq.: MS 303.

MAA 5227 (MS 542) Modern Analysis 2. W.
Credits: 3; Prereq.: MS 541.

MAA 5228 (MS 543) Modern Analysis 3. S.
Credits: 3; Prereq.: MS 542.

MAA 5102 (MS 547) Advanced Calculus 1. F,W.
Credits: 3; Prereq.: MS 303.

MAA 5103 (MS 548) Advanced Calculus 2. W,S.
Credits: 3; Prereq.: MS 547.

MAA 5104 (MS 549) Advanced Calculus 3. S,SS.
Credits: 3; Prereq.: MS 548.

MHF 5107 (MS 551) Introduction to Set Theory.
Credits: 4

MTG 5316 (MS 552) Introduction to Topology 1.
Credits: 4; Prereq.: MS 551.

MTG 5317 (MS 553) Introduction to Topology 2.
Credits: 4; Prereq.: MS 552.

MAD 5306 (MS 566) Theory of Graphs 1. W.
Credits: 4

MAD 5307 (MS 567) Theory of Graphs 2. S.
Credits: 4

MAP 6505 (MS 601) Mathematical Methods of Physics and Engineering 1.
Credits: 3

MAP 6506 (MS 602) Mathematical Methods of Physics and Engineering 2.
Credits: 3

MAP 6507 (MS 603) Mathematical Methods of Physics and Engineering 3.
Credits: 3

MAP 6417 (MS 607) Fourier Series 1.
Credits: 3

MAP 6418 (MS 608) Fourier Series 2.
Credits: 3

MAP 6216 (MS 609) Introduction to Calculus of Variations for Engineers and Physical Scientists.
Credits: 3

MAS 6158 (MS 610) Tensor Analysis
Credits: 3

MAS 6329 (MS 611) Application of Group Theory in the Physical Sciences.
Credits: 3

MAD 6407 (MS 614) Numerical Analysis
Credits: 4

MAP 6356 (MS 615) Partial Differential Equations 1.
Credits: 3

MAP 6357 (MS 616) Partial Differential Equations 2.
Credits: 3

MAP 6358 (MS 617) Partial Differential Equations 3.
Credits: 3

MAP 6467 (MS 618) Stochastic Differential Equations and Filtering Theory 1. F.
Credits: 3

MAP 6468 (MS 619) Stochastic Differential Equations and Filtering Theory 2.
Credits: 3

MAP 6469 (MS 620) Stochastic Differential Equations and Filtering Theory 3.
Credits: 3

MTG 6266 (MS 621) Introduction to Commutative Algebra and Algebraic Geometry 1.
Credits: 3

MTG 6267 (MS 622) Introduction to Commutative Algebra and Algebraic Geometry 2.
Credits: 3

MTG 6268 (MS 623) Introduction to Commutative Algebra and Algebraic Geometry 3.
Credits: 3

MHF 6306 (MS 624) Mathematical Logic 1.
Credits: 3

MHF 6307 (MS 625) Mathematical Logic 2.
Credits: 3

MHF 6308 (MS 626) Mathematical Logic 3.
Credits: 3

MAS 6346 (MS 631) Algebra 1.
Credits: 3

MAS 6347 (MS 632) Algebra 2.
Credits: 3

MAS 6348 (MS 633) Algebra 3.
Credits: 3

MTG 6237 (MS 635) Projective Geometry.
Credits: 3

MTG 6227 (MS 636) Incidence Geometry 1.
Credits: 3

MTG 6228 (MS 637) Incidence Geometry 2.
Credits: 3

MTG 6256 (MS 638) Differential Geometry 1.
Credits: 3

MTG 6257 (MS 639) Differential Geometry 2.
Credits: 3

MTG 6258 (MS 640) Differential Geometry 3.
Credits: 3

MAA 6616 (MS 641) General Theory of Measure and Integration 1.
Credits: 3

MAA 6617 (MS 642) General Theory of Measure and Integration 2.
Credits: 3

MAA 6618 (MS 643) General Theory of Measure and Integration 3.
Credits: 3

MAA 6626 (MS 645) Advanced Topics in Integration 1.
Credits: 3

MAA 6627 (MS 646) Advanced Topics in Integration 2.
Credits: 3

MAA 6628 (MS 647) Advanced Topics in Integration 3.
Credits: 3

MAA 6236 (MS 648) Mathematical Analysis for Statisticians 1.
Credits: 4

MAA 6237 (MS 649) Mathematical Analysis for Statisticians 2.
Credits: 4

MAA 6238 (MS 650) Mathematical Analysis for Statisticians 3.
Credits: 4

MAA 6406 (MS 651) Complex Analysis 1.
Credits: 3

MAA 6407 (MS 652) Complex Analysis 2.
Credits: 3

MAA 6408 (MS 653) Complex Analysis 3.
Credits: 3

MAD 6206 (MS 656) Combinatorial Theory 1.
Credits: 3

††Grading is on a S-U basis only.

MAD 6207 (MS 657) Combinatorial Theory 2.
Credits: 3; Prereq.: MS 656.

MAD 6208 (MS 658) Combinatorial Theory 3.
Credits: 3; Prereq.: MS 657.

MTG 6346 (MS 661) Topology 1.
Credits: 4; Prereq.: MS 553.

MTG 6347 (MS 662) Topology 2.
Credits: 4; Prereq.: MS 661.

MTG 6348 (MS 663) Topology 3.
Credits: 4; Prereq.: MS 662.

MTG 6276 (MS 666) Theory of Convexity 1.
Credits: 3

MTG 6277 (MS 667) Theory of Convexity 2.
Credits: 3; Prereq.: MS 666.

MTG 6278 (MS 668) Theory of Convexity 3.
Credits: 3; Prereq.: MS 667.

MAT 6932 (MS 690) Special Topics in Mathematics.
Credits: 3

MAT 6907 (MS 696) Individual Work
Credits: 1 to 4

MAT 6911 (MS 697) Supervised Research
Credits: 1 to 5††

MAE 6946 (MS 698) Supervised Teaching
Credits: 1 to 5††

MAT 6911 (MS 699) Master's Research
Credits: 1 to 15††

MTG 7396 (MS 701) Advanced Topics in Topology 1.
Credits: 3

MTG 7397 (MS 702) Advanced Topics in Topology 2.
Credits: 3

MTG 7398 (MS 703) Advanced Topics in Topology 3.
Credits: 3

MAP 7475 (MS 711) Seminar in Mathematical System Theory.
Credits: 3

MAP 7436 (MS 712) Seminar in Applied Mathematics 1.
Credits: 3

MAP 7437 (MS 713) Seminar in Applied Mathematics 2.
Credits: 3

MAP 7438 (MS 714) Seminar in Applied Mathematics 3.
Credits: 3

MAS 7215 (MS 745) Theory of Numbers 1.
Credits: 3

AAS 7216 (MS 746) Theory of Numbers 2.
Credits: 3

MAS 7217 (MS 747) Theory of Numbers 3.
Credits: 3

MAA 7526 (MS 755) Advanced Topics in Functional Analysis 1.
Credits: 3

MAA 7527 (MS 756) Advanced Topics in Functional Analysis 2.
Credits: 3; Prereq.: MS 755.

MAA 7528 (MS 757) Advanced Topics in Functional Analysis 3.
Credits: 3; Prereq.: MS 756.

MAS 7396 (MS 765) Advanced Topics in Algebra 1.
Credits: 3

MAS 7397 (MS 766) Advanced Topics in Algebra 2.
Credits: 3

MAS 7398 (MS 767) Advanced Topics in Algebra 3.
Credits: 3

MAP 7477 (MS 771) Introduction to Mathematical System Theory 1
Credits: 4

MAP 7478 (MS 772) Introduction to Mathematical System Theory 2.
Credits: 4

MAT 7912 (MS 799) Doctoral Research
Credits: 1 to 15††

MECHANICAL ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1976-77

Gaither, R.B., Chairman; Farber, E.A.; Freeman, W.L.; Gater, R.A.; Hsieh, C.K.; Ingley, H.A.; Ingman, H.M.; Irey, R..; Mahig, J.; Morrison, C.A.; Oliver, C.C.; Patterson, E.P.; Protrowski, G.; Roan, V.P.; Samuel, J.A.; Sandor, G.I.; Tesar, D.; Vance, J.M.

EML 2002 (ME 280) Conceptual Design of Thermal and Mechanical Systems.
Credits: 3; Prereq.: Soph. or Junior Class.
An introductory course for mechanical engr. majors and others interested in conceptual aspects of mechanical design. Lectures on the design process are integrated with creative design projects.

EML 3005 (ME 301) Introduction to Mechanical Engineering Design. F, W.
Credits: 3 to 5; Prereq.: EGR 193; Coreq: ESM 301
Study and application of the design process, as related to mechanical and thermal systems. Exercises in problem definition, idea generation, decision making, selection of standard parts, and graphical, written, and oral communication. Drawing and machine shop laboratories are integrated with the lecture material.

EML 3301 C (ME 320) Instrumentation and Measurements Laboratory. F, W, S, SS.
Credits: 2
Use of precision instruments and measurement standards in mechanical engineering. Preparation of engineering reports.

EML 3100 (ME 360) Thermodynamics 1. F, W, S, SS.
Credits: 5; Prereq.: MS 304, PS 217, CY 212.
First and second laws of thermodynamics, microscopic and macroscopic procedures for the calculation of thermodynamic properties, application to example systems.

EML 3102 L (ME 361) Thermodynamics 2. F, W, S, SS.
Credits: 4; Prereq.: ME 360.
Microscopic analysis of transport processes, combustion, thermodynamic cycles, and irreversible thermodynamics.

EML 3101 L (ME 362) Thermodynamics Laboratory. F, W, S, SS.
Credits: 1; Prereq.: ME 360; ME 320.
Experimental verification of thermodynamic principles.

EML 3202 (ME 380) Mechanisms and Kinematics. F, W, S. SS.
Credits: 4; Coreq.: ESM 302.
A study of the mechanisms used in machinery and the analysis of the motion obtained.

EML 3260 (ME 381) Machine Dynamics. F, W, S, SS.
Credits: 4; Prereq.: ME 380; ESM 302.
Principles of dynamics in the design of machinery.

EML 3321 (ME 382) Manufacturing Processes. F, W, S, SS.
Credits: 3; Prereq.: MSE 300
Machinery, materials and processes used in manufacturing.

EML 4920 (ME 401) Professional Orientation. F.
Credits: 1; Prereq.: Senior Engineering Student.
Principles of mechanical engineering practice, professional standards and ethics.

EML 4936 (ME 402) Mechanical Engineering Seminar. F, W, S, SS.
Credits: 1; Prereq.: Senior Engineering Student.
Presentation of papers on current developments in mechanical engineering.

EML 4140 (ME 430) Heat Transfer 1. F, W, S, SS.
Credits: 3; Prereq.: MS 305, ME 360; Coreq.: EGC 311
Analysis of steady state problems of conduction and radiation heat transfer. Introduction to convective transfer.

EML 4141 (ME 431) Heat Transfer 2. F, W, S.
Credits: 3; Prereq.: ME 430, ME 361; Coreq.: ME 450; ME 362. Continuation of ME 430.
Transient conduction and free and forced convection. Heat transfer with phase change. Thermal systems design.

EML 4263 (ME 439) Dynamics of Rotating Machinery. S.
Credits: 3 Prereq: ESM 302.
Analytical basis of design for machines characterized by high speed or massive rotor-shaft assemblies mounted on various types of bearing supports, as exemplified by turboshaft engines, centrifugal or axial flow compressors, vehicle drive trains, etc.

EML 4522 (ME 445) Mechanical Engineering Analysis. F, W, SS.
Credits: 3; Prereq.: Adv. Senior Classification.
Mathematical Analysis of Mechanical Engineering Systems, including mechanical, electromechanical, hydraulic, pneumatic and thermal components and subsystems.

EML 4709 (ME 450) Fluid Dynamics. F, S.
Credits: 3; Prereq.: EGC 311, ME 360.
Thermodynamics and mechanics of fluid flow systems, compressible and incompressible flow systems.

EML 4419 (ME 460) Aircraft Propulsion. W, SS.
Credits: 3; Prereq: ME 360, ME 430, or equivalent.
Physical basis of propulsion, gas turbines and ramjet fundamentals. Introduction to compressor and turbine design. Propulsion performance. Unconventional means of propulsion in space.

EML 4411 (ME 461) Mechanical Propulsion Systems. W, SS.
Credits: 3; Prereq: ME 360.
Gas and liquid fuels, internal combustion engines. Automotive, aircraft, and Diesel power plants.

EML 4411 L (ME 462) Mechanical Propulsion Systems Laboratory.
Credits: 1; Coreq: ME 461.
Testing of lubricants, gasoline, automobile engines, aircraft engines, and high and low speed Diesel engines.

EML 4414 (ME 463) Heat Power Engineering. S.
Credits: 3; Prereq: ME 360.
Steam and Diesel engine power plants and their auxiliary equipment.

EML 4414 L (ME 464) Heat Power Engineering Laboratory.
Credits: 1; Coreq: ME 463.
Analysis of fuels, heating value, flue gas analysis, and the testing of boilers, turbines, engines, and steam plant auxiliary apparatus.

EML 4601 (ME 465) Refrigeration and Air Conditioning. F, S.
Credits: 3; Prereq.: ME 360.
Refrigerating and air conditioning, apparatus and their applications to the industrial, commercial and residential fields.

EML 4601 L (ME 466) Refrigeration and Air Conditioning Laboratory.
Credits: 1; Coreq: ME 465.
Performance tests on air conditioning and refrigeration equipment. AC system design.

EML 4450 (ME 467) Energy Conversion. W.
Credits: 3; Prereq.: ME 361.
Thermomechanical and thermoelectric energy conversion. Conventional and unconventional techniques and analysis for energy systems interactions.

EML 4926 (ME 468) Mechanical Consulting Practice.
Credits: 3; Prereq.: Senior standing.
Synthesis and analysis of mechanical engineering systems, planning and execution of engineering contracts, supervision of construction and tests.

EML 4600 (ME 469) Heating and Air Conditioning. W.
Credits: 3; Prereq.: ME 465.
Heating and air conditioning systems. Equipment selection, system arrangement and duct design.

EML 4416 (ME 470) Solar Energy. F, S.
Credits: 3
Nature and availability, collection and storage, solar properties of materials, conversion to heat, power and electricity for domestic and industrial consumption including transportation.

EML 4220 C (ME 480) Mechanical Vibrations, F, W, S, SS.
Credits: 4; Prereq.: ESM 330 or MS 305, ESM 302
The single degree of freedom systems, multiple degree of freedom systems. Application to mechanical systems with problems employing computer techniques.

EML 4500 (ME 482) Machine Analysis and Design 1. F, W, S, SS.
Credits: 3; Prereq.: ESM 303; Coreq.: ME 381, or permission of instructor from non-ME students.
Stress analysis of machine elements, design procedure, design of machine elements.

EML 4501 (ME 483) Machine Analysis and Design 2. F, W, S, SS.
Credits: 3; Prereq.: ME 382, ME 482.
Advanced problems in design, and the design of a complete machine.

EML 4502 (ME 484) Machine Analysis and Design 3. W.
Credits: 3; Prereq.: ME 483.
Machine systems design.

EML 4946 (ME 496) Individual Problems in Mechanical Engineering. F, W, S, SS.
Credits: 1 to 5; Prereq.: Recommendation of Department Chairman.
Selected problems or projects in the student's major field of engineering study. May be repeated with a change of content up to a maximum of 12 credits.

EML 4945 (ME 497) Practical Work in Mechanical Engineering. F, W, S, SS.
Credits: 1 to 5; Prereq.: EG Classification;
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

EML 4949 (ME 499) Co-op Work Experience. F, W, S, SS.
Credits: 1 to 5; Prereq.: Freshman Year.
Practical co-op work experience under approved industrial supervision.

GRADUATE COURSES

EML 5311 (ME 520) Control System Theory.
Credits: 3

EML 5526 (ME 535) Biomechanics of Surgical Implants.
Credits: 3

EML 5224 (ME 540) Engineering Acoustics and Noise Control.
Credits: 3

EML 5714 (ME 550) Gas Dynamics of Internal Flow Systems.
Credits: 3

EML 5152 (ME 555) Intermediate Heat Transfer.
Credits: 3

EML 5105 (ME 560) Statistical Thermodynamics.
Credits: 3

EML 5104 (ME 561) Classical Thermodynamics.
Credits: 3

EML 5605 (ME 577) Advanced Refrigeration.
Credits: 3

EML 5273 (ME 580) Advanced Dynamics of Machinery.
Credits: 3

EML 5223 (ME 581) Design Synthesis in Vibrations.
Credits: 3

EML 5527 (ME 589) Similitude in Mechanical Engineering Design.
Credits: 3

EML 5515 (ME 591) Gas Turbines and Jet Engines.
Credits: 3

EML 5504 (ME 593) Mechanical Design 1.
Credits: 3

EML 5505 (ME 594) Mechanical Design 2.
Credits: 3

EML 6306 L (ME 620) Instrumentation and Measurements Laboratory.
Credits: 1

EML 6312 (ME 621) Feedback Control System Design 1.
Credits: 3

EML 6506 (ME 630) Sliding-Element Bearing Analysis and Design.
Credits: 3

EML 6507 (ME 631) Rolling-Element Bearing Analysis and Design.
Credits: 3

EML 6278 (ME 639) Advanced Rotor Dynamics.
Credits: 3

EML 6254 (ME 641) Advanced Noise Control.
Credits: 3

EML 6715 (ME 650) Special Topics in Fluid Dynamics.
Credits: 3

EML 6159 (ME 651) Special Topics in Heat Transfer.
Credits: 3

EML 6716 (ME 652) Thermodynamics of Fluid Flow 1.
Credits: 3

EML 6717 (ME 653) Thermodynamics of Fluid Flow 2.
Credits: 3

EML 6718 (ME 654) Thermodynamics of Fluid Flow 3.
Credits: 3

EML 6154 (ME 655) Conduction Heat Transfer.
Credits: 3

EML 6155 (ME 656) Convective Heat Transfer 1.
Credits: 3

EML 6157 (ME 657) Radiation Heat Transfer 1.
Credits: 3

EML 6156 (ME 658) Convective Heat Transfer 2.
Credits: 3

EML 6153 (ME 659) Advanced Heat Transfer.
Credits: 3

EML 6108 (ME 660) Advanced Statistical Mechanics and Kinetic Theory.
Credits: 3

EML 6103 (ME 661) Advanced Thermodynamics.
Credits: 3

EML 6107 (ME 662) Irreversible Thermodynamics.
Credits: 3

EML 6452 (ME 663) Energy Conversion.
Credits: 3

EML 6131 (ME 664) Combustion 1.
Credits: 3

EML 6132 (ME 665) Combustion 2.
Credits: 3

EML 6417 (ME 666) Solar Energy Utilization.
Credits: 3

EML 6418 (ME 667) Special Topics in Solar Energy.
Credits: 3

EML 6514 (ME 668) Gas Turbine Design and Performance.
Credits: 3

EML 6606 (ME 675) Advanced Air Conditioning 1.
Credits: 3

EML 6607 (ME 676) Advanced Air Conditioning 2.
Credits: 3

EML 6318 (ME 678) Fluerics and Fluidics.
Credits: 3

EML 6272 (ME 680) Dynamics of Machine Systems.
Credits: 3

EML 6226 (ME 681) Mechanical Vibrations 1.
Credits: 3

EML 6227 (ME 682) Mechanical Vibrations 2.
Credits: 3

EML 6274 (ME 683) Dynamic Synthesis of Direct Contact Mechanisms.
Credits: 3

EML 6275 (ME 684) Coplanar Kinematic Synthesis 1.
Credits: 3

EML 6276 (ME 685) Coplanar Kinematic Synthesis 2.
Credits: 3

EML 6277 (ME 686) Spatial Kinematic Synthesis and Analysis.
Credits: 3

EML 6508 (ME 687) Computer-Aided Design Optimization.
Credits: 3

††Grading is on a S-U basis only.

EML 6911 (ME 690) Mechanical Research 1.
Credits: 1 to 3

EML 6906 (ME 692) Advanced Mechanical Laboratory 1.
Credits: 3

EML 6935 (ME 695) Graduate Seminar.
Credits: 1††

EML 6910 (ME 696) Individual Projects in Mechanical Engineering.
Credits: 1 to 5

EML 6913 (ME 697) Supervised Research.
Credits: 1 to 5††

EML 6941 (ME 698) Supervised Teaching.
Credits: 1 to 5††

EML 6971 (ME 699) Master's Research.
Credits: 1 to 15††

EML 7980 (ME 799) Doctoral Research.
Credits: 1 to 15††

MECHANIZED AGRICULTURE
College of Agriculture
(Administered by the Department of Agricultural Engineering)

MAG 3732 (MCA 301) Water Management. W.
Credits: 4
Basic hydrology; rainfall, intensity, depth, frequency, distribution and runoff. Conservation practices, land drainage, irrigation and management alternatives are emphasized.

MAG 3220 (MCA 303) Agricultural Mechanics 1. F,W,S.
Credits: 4
Basic principles and development of manual and managerial skills in relation to hand and power tools in construction, repair, and maintenance of agricultural machines and equipment.

MAG 3312 (MCA 306) Farm Machinery. F,S.
Credits: 4
The functional requirements, operating principles, performance, safety, and economic application of agricultural field machines and mechanized systems of production.

MAG 3052 (MCA 310) Engineering Concepts and Agriculture. F.
Credits: 3
Introduction to agricultural mechanization, management of related natural resources, energy systems, application of energy and technology, environmental protection and social interactions.

MAG 3503 (MCA 333) Agriculture and Environmental Quality. W,SS.
Credits: 4; (Ident. with SLS 333)
Analysis of effects of agriculture on environmental quality; emphasis on agricultural wastes and practices; potential for using agricultural systems for disposal of other wastes; effects of pollution on the agricultural environment.

MAG 4941 (MCA 400) Full Time Practical Work Experience in Mechanized Agriculture. SS.
Credits: 1 to 4; S-U Grade only. Prereq: Prior arrangement with adviser, approval of Department Chairman and Dean.

MAG 4642 (MCA 402) Environmental Systems for Agricultural Structures. S.
Credits: 4; Prereq.: MS 102
Effects of the environment on plant and animal production, processing operations, and quality of stored produce. Selection of building materials and sizing of components of environmental systems in agricultural structures to enhance more efficient agricultural production, processing and storage.

MAG 4062 (MCA 404) Principles of Food Engineering. W.
Credits: 5; (Ident. with FS 404; Prereq.: MS 102 and five credits of physics.
The functional requirements and principles of operation of systems for handling and processing of food and agricultural products.

MAG 4225 (MCA 407) Agricultural Mechanics 2. F,S.
Credits: 5; Prereq: MCA 303 and upper division classification.
Principles, practices, and decision making in construction, selection, operation, and maintenance of agricultural machines, buildings, and utilities.

MEDICAL TECHNOLOGY
College of Health Related Professions

INSTRUCTIONAL STAFF 1976-77
Britt, M.S., Chairman; Fisher, F.; Hornsby, J.; Jordan, V.G.; Leonard, C.; Pursley, L.; Rodeheaver, J.L.; D. Price; J. Brouillette.

See also course offerings under Health Related Professions (HRP).

MLS 2030 (MET 201) Introduction to Medical Technology. F, W, S.
Credits: 2
History, ethics and organizations of medical technology. Types of employment and job opportunities.

The courses below are open only to those persons who have been accepted into the Medical Technology Curriculum:

MLS 3308 L (MET 301) Fundamentals of Medical Technology-Hematology. F.
Credits: 3
Basic theory in clinical hematology including hematopoiesis, hemoglobinometry, introduction to anemias, principles of cell counting, morphology of normal cells, introduction to hemostasis.

MLS 3308 (MET 302) Introduction to Laboratory Procedures 1. F.
Credits: 1
Basic skills in clinical hematologic procedures.

MLS 3627 (MET 303) Fundamentals of Medical Technology-Clinical Chemistry. W.
Credits: 3
Scientific principles and theory in instrumentation and clinical chemistry.

MLS 3627 L (MET 304) Introduction to Laboratory Procedures 2. W.
Credits: 2
Laboratory procedures emphasizing basic skills in instrumentation and clinical chemistry.

MLS 3628 (MET 305) Fundamentals of Medical Technology-Blood Banking. S.
Credits: 3
Principles and theories of immunohematology including blood group antigens and antibodies, selection and processing of donors, preparation and use of blood components.

MLS 3628 L (MET 306) Introduction to Laboratory Procedures 3. S.
Credits: 1
Basic laboratory techniques in blood banking.

MLS 4830 C (MET 401) Clinical Laboratory Practicum 1. SS.
Credits: 5
Orientation to laboratory technique during supervised rotation through clinical pathology laboratories.

MLS 4840 C (MET 402) Clinical Laboratory Practicum 2. SS.
Credits: 5
Practical application of laboratory skills during supervised rotations through clinical pathology laboratories.

MLS 4831 C (MET 403) Clinical Laboratory Practicum 3. F.
Credits: 5
Second quarter of the sequence MLS 4830C, 4831C, 4832C, 4833C (MET 401, 403, 405, 407.)

MLS 4841 C (MET 404) Clinical Laboratory Practicum 4. F.
Credits: 5
Second quarter of the sequence MLS 4840C, 4841C, 4842C, 4843C. (MET 402, 404, 406, 408.)

MLS 4832 C (MET 405) Clinical Laboratory Practicum 5. W.
Credits: 5
Third quarter of the sequence MLS 4830C, 4831C, 4832C, 4833C. (MET 401, 403, 405, 407.)

MLS 4842 C (MET 406) Clinical Laboratory Practicum 6. W.
Credits: 5
Third quarter of the sequence MLS 4840C, 4841C, 4842 C, 4843C. (MET 402, 404, 406, 408.)

MLS 4833 C (MET 407) Clinical Laboratory Practicum 7. S.
Credits: 5
Fourth quarter of the sequence MLS 4830C, 4831C, 4832C, 4833C. (MET 401, 403, 405, 407.)

MLS 4843 C (MET 408) Clinical Laboratory Practicum 8. S.
Credits: 5
Fourth quarter of the sequence MLS 4840C, 4841C, 4842C, 4843C. (MET 402, 404, 406, 408.)

MLS 4850 (MET 409) Principles of Clinical Laboratory Methodology 1. SS.
Credits: 2
The principles and theory of laboratory practice in clinical chemistry and toxicology; hematology; microbiology and parasitology; microscopy and urinalysis; serology; histologic technique; immunology and blood banking; special procedures. Clinical laboratory organization, administration and management are presented.

MLS 4851 (MET 410) Principles of Clinical Laboratory Methodology 2. F.
Credits: 2
The second quarter of the course sequence MLS 4850, 4851, 4852, 4853. (MET 409 through 412.)

MLS 4852 (MET 411) Principles of Clinical Laboratory Methodology 3. W.
Credits: 2
The third quarter of the course sequence MLS 4850, 4851, 4852, 4853 (MET 409 through 412.)

MLS 4853 (MET 412) Principles of Clinical Laboratory Methodology 4. S.
Credits: 2
The fourth quarter of the course sequence MLS 4850, 4851, 4852, 4853. (MET 409 through 412.)

MLS 4934 C (MET 413) Seminar in Medical Technology 1. F.
Credits: 1
Selected topics in clinical laboratory methodology; laboratory organization, administration, management; current research, developments, literature, related areas.

MLS 4935 C (MET 414) Seminar in Medical Technology 2. W.
Credits: 1
The second quarter of the course sequence MLS 4934C, 4935C, 4936C. (MET 413 through 415.)

MLS 4936 C (MET 415) Seminar in Medical Technology 3. S.
Credits: 1
The third quarter of the course sequence MLS 4934C, 4935C, 4936C. (MET 413 through 415.)

MEDICINE

For a complete description of the courses offered by the College of Medicine, see the Catalog of the College of Medicine and the Graduate School Catalog.

Interdisciplinary Programs

For well-qualified undergraduates who receive departmental permission, two programs for individual interdisciplinary majors exist within the College of Medicine: one in Biochemical and Neural Sciences and the other in Neurobiology. The former involves course work in the Departments of Biochemistry and Neuroscience and the latter involves course work in the Departments of Neuroscience and Psychology. Both courses involve laboratory research and additional elective courses. Application should be made to the departments concerned in the sophomore or junior years.

EXP 3719 L (MED 300) Laboratory Topics in Psychophysics. F, S.
Credits: 2; (Ident. with PSY 379); Prereq: PSY 201 or consent of instructor.
A practicum in experimental methodology. Students collect, analyze, and evaluate data on specific problems related to brain mechanisms of skin sensation.

BCH 3713 (MED 351) Introduction to Human Molecular Biology. S.
Credits: 3; (Ident. with BCH 351); Prereq: ZY 202, CBS 231 or equivalent; CY 204 or equivalent.
Introduction to molecular biology of normal and abnormal human systems for students in the Life Sciences. Relationship of biochemistry to advances in medical sciences, organization of human cells, cell duplication and mutability of the human genome, nutrition and metabolic diseases, viral diseases, and cell growth and proliferation (cancer, ageing).

BMS 4022 (MED 400) Biochemical and Neural Sciences
Credits: 1; [Ident. with BCH 400]; Prereq: Admission to Interdisciplinary Program in Biochemical and Neural Sciences.
A weekly seminar discussing topics of current interest in the biochemical and neural sciences.

(MED 405) Introduction to the Neurosciences. F.
Credits: 4; Prereq: ZY 202 or equivalent and consent of instructor.
Structure and basic functions of the mammalian nervous system. Human neuroanatomy, including peripheral and central structures from spinal cord to cerebral cortex. Fundamental concepts of neurophysiology, including initiation, propagation and synatic transmission of the nerve impulse. Sensory, motor, and integrative activities. Elements of neurochemistry and neuropharmacology.

BMS 4021 (MED 406) Introduction to Neurochemistry. S.
Credits: 4; Prereq: Biochemistry.
Methods of neurochemical analysis, Metabolism and function of nervous system chemicals. Synaptic transmission, axoplasmic flow and selected topics of current interest.

BMS 4023 (MED 407) Current Topics in Brain and Behavior
Credits: 4; (Ident. with PSY 471); Prereq: MED 405 or PSY 401: Coreq: MED 408.
Biological bases of behavior, and structural and functional correlates of learning.

BMS 4024 (MED 408) Experimental Methods in Brain and Behavior. S.
Credits: 1 to 4 (Ident. with PSY 472); Prereq: MED 405 or PSY 371; Coreq: MED 407.
An introduction to current techniques used in research on brain and behavior.

BMS 4013 (MED 496) Medical Sciences Senior Research. F, W, S, SS.
Credits: 2 to 5; Prereq: Senior standing and consent of instructor.
Laboratory or literature in investigations or problems of current interest in the medical sciences.

GRADUATE COURSES

GMS 5702 (MED 504) Neurohumors and Behavior. S.
Credits: 4; (Ident. with PS 574); Prereq: PSY 379 or equivalent.

BMS 5511 (MED 518) Vision
Credits: 4; (Ident. with PSY 578); Prereq: PSY 371 or ZY 574 or equivalent, consent of instructor.

DEPARTMENT OF MICROBIOLOGY AND CELL SCIENCE
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77

Smith, P.H., Chairman; Bleiweis, A.S., Associate Chairman; Achey, P.M.; Aldrich, H.C.; Bitton, G.; Brookbank, J.W.; Clem, L.W.; Coleman, S.E.; Davis, F.C., Jr.; Duggan, D.E.; Gifford, G.E.; Gregg, J.H.; Hoffman, E.M.; Hubbell, D.H.; Ingram, L.O.; Karp, G.C.; Koburger, G.C.; Milam, J.R.; Olson, G.A.; Preston, J.F.; Previc, E.P.; Schneider, N.J.; Smith, K.L.; Tate, R.L.; Tyler, M.E.; and Zam, S.G.

Undergraduate Coordinators: L.O. Ingram and J.F. Preston

The curriculum is designed to develop fundamental knowledge of procaryotic and eucaryotic cells and viruses. It provides a background for pursuing graduate work in biochemistry, cell biology and/or government laboratories. The curriculum also provides a background for entry into the professions of dentistry, medicine or veterinary medicine.

A major in Microbiology and Cell Science requires course background in biology, general and organic chemistry, quantitative analysis, physics and calculus and fulfillment of the Arts and Sciences language requirement. The major courses include BCH 411 and BCH 412; MCS 302, MCS 405, and at least 15 credits from the courses below numbered MCS 406 through MCS 496. Courses in physical chemistry are recommended for students anticipating later work toward a research graduate degree.

APB 2170 (MCS 200.) Microbiology. F, W, S, SS.
Credits: 3
Microorganisms in relation to evolution and higher organisms; their functions in chemical transformation, food, disease and sanitation. Terminal course, not acceptable for admission to advanced microbiology courses. Available for UC credit in Biological Sciences.

APB 2170 L (MCS 201) Discussion Laboratory in Microbiology. F, W, S, SS.
Credits: 2. Optional with MCS 200.

MCB 3013 (MCS 302) Basic Biology of Microorganisms. F, W, S, SS.
Credits: 3. Prereq: BIO 201; C 381.
Structure, nutrition and growth of bacteria; characterization of representative bacteria and viruses; metabolic peculiarities, and introduction to genetics and control mechanisms. Laboratory experience in techniques and primary isolation and study. Prerequisite to all advanced courses.

MCB 3013 L (MCS 303) Basic Biology of Microorganisms Laboratory.
Credits: 2. Optional with MCS 302.

Descriptions

PCB 3253 (MCS 308) Developmental Biology. S.
Credits: 4. Prereq: BIO 201, 2, 3.
Lectures on cellular aspects of development, including embryonic development, regeneration and cell culture systems.

PCB 3253 L (MCS 309) Developmental Biology Laboratory. S.
Credits: 1. Prereq: Optional with MCS 308.

APB 3541 C (MCS 320) Parasitology for Medical Technicians. S.
Credits: 4.
Life cycles and morphology of helminth and protozoan parasites of man. Emphasis on diagnostic procedures. Limited to medical technology students.

PCB 4233 (MCS 405) Basic Immunology. W.
Credits: 3. Prereq: MCS 302.
A survey of the cellular and humoral systems involved in the response of vertebrates to foreign substances. Basic techniques of serology.

MCB 4203 (MCS 406) Bacterial Pathogens. S.
Credits: 3. Prereq: MCS 405.
Host-parasite relationships in the diseases of man and animals. The characteristics of bacterial pathogens. Basic techniques of isolation and identification.

PCB 4253 (MCS 408) Cellular and Molecular Aspects of Development. W.
Credits: 3. Prereq: MCS 419, 420.
The mechanisms underlying embryonic development operating at the cellular and molecular level. Focus on ultrastructural, biochemical, immunological and genetic analysis.

MCB 4503 C (MCS 410) General Virology. W.
Credits: 5. Prereq: MCS 302, Co-req: BCH 411.
Nature of viruses and mechanisms of infection and replication. Includes bacterial, animal and plant viruses.

APB 4544 C (MCS 416) Human Parasitology. F.
Credits: 5. Prereq: B10 Core.
Host-parasite relationships of helminth and protozoan diseases important in health sciences and veterinary medicine.

MCB 4403 (MCS 419) Cell Structure and Function. F.
Credits: 4. Prereq: CY 382; MCS 302.
An analysis of the anatomy, biochemistry and physiology of key organelles or prokaryotic and eukaryotic cells. Emphasis on the experimental approach to the study of structure and function of cells.

MCB 4413 (MCS 420) Cell Metabolism and Regulation. W.
Credits: 4. Prereq: CY 382, BCH 411, MCS 302. MCS 419 recommended.
Energy metabolism and pathways of prokaryotic and eukaryotic cells; emphasis on quantitation and regulation.

MCB 4303 (MCS 421) Genetics of Microorganisms. S.
Credits: 5. Prereq: MCS 302, BCH 411.
Genetic systems in bacteriophage and microorganisms with emphasis on mutation and recombination. Control of metabolic pathways in bacteria.

PCB 4013 L (MCS 422) Laboratory in Cell Biology.
Credits: 2. Optional with MCS 419 and 420.
A laboratory with changing content to accompany MCS 419 and 420. May be repeated for up to 4 credits with change in content.

PCB 4233 L (MCS 455) Experiments in Immunology. W.
Credits: 2. Optional with MCS 405.

MCB 4203 L (MCS 466) Experiments with Bacterial Pathogens. S.
Credits: 2. Optional with MCS 406.

††Grading is on a S-U basis only.

MCB 4910 (MCS 496) Undergraduate Research. On Demand.
Credits: 2 to 5. Prereq: Permission of undergraduate coordinator.
Individual laboratory research under the close guidance of a selected faculty member. Enrollment limited to undergraduate majors in Microbiology. Required of, but not limited to, candidates for Honors and High Honors. May be repeated up to a maximum of 15 credits.

GRADUATE COURSES

MCB 5605 C (MCS 507) Microbial Ecology. S.
Credits: 5. Prereq: permission.

(MCS 584) Radiation Biology.
Credits: 4. (Ident. with NES 584.) Prereq: 1 year each of college chemistry, physics and biology.

(MCS 586) Radiation Biology Laboratory.
Credits: 2. (Ident. with NES 586.) Coreq. or Prereq: MCS 584.

ZOO 6226 (MCS 625) Protozoology.
Credits: 5. Prereq: Instructor's Permission.

EES 6106 (MCS 628) Environmental Microbiology.
Credits: 4. (Identical with ENV 628).

(MCS 631) Developmental Morphology of Flowering Plants. W.
Credits: 5. (Identical with BTY 631)

(MCS 632) Techniques in Developmental Botany. S.
Credits: 5. (Identical with BTY 632)

(MCS 633) Electron Microscopy of Biological Material. W.
Credits: 2. (Identical with BTY 653).

(MCS 634) Laboratory in Electron Microscopy. W.
Credits: 2. (Identical with BTY 654)

(MCS 635) Plant Cytology. S. (75-76)
Credits: 5. (Identical with BTY 655)

(MCS 636) Cytochemistry. S. (76-77).
Credits: 4. (Identical with BTY 656)

(MCS 647) Current Topics in Developmental Biology. F.
Credits: 3.

APB 6933 (MCS 649) Special Topics in Radiation Biology. S.
Credits: 5. Prereq: MCS 549.

MCB 6275 (MCS 650) Public Health Microbiology.
Credits: 1 to 6 (Identical with MED 650).

MCB 6937 (MCS 651) Special Topics in Microbiology.
Credits: 1 to 6 (Identical with MED 651).

MCB 6506 (MCS 652) Virology.
Credits: 5. (Identical with MED 652).

MCB 6506 L (MCS 653) Virology Laboratory.
Credits: 3. (Identical with MED 653).

MCB 6913 (MCS 654) Research Planning.
Credits: 5. (Identical with MED 654).

MCB 6127 (MCS 656) The Literature of Microbiology.
Credits: 3. (Identical with MED 656).

MCB 6417 C (MCS 657) Microbial Metabolism.
Credits: 5. (Identical with MED 657).

MCB 6407 C (MCS 658) Microbial Physiology.
Credits: 5. (Identical with MED 658).

PCB 6236 (MCS 659) Principles of Immunology.
Credits: 5. (Identical with MED 659).

PCB 6236 L (MCS 660) Immunology Laboratory.
Credits: 3. (Identical with MED 660).

MCB 6757 C (MCS 661) Biology of Uncommon Microorganisms.
Credits: 5. (Identical with MED 661).

MCB 6306 (MCS 662) Microbial Genetics.
Credits: 5. (Identical with MED 662).

MCB 6717 C (MCS 663) Parasitic Disease of the Tropics and Subtropics.
Credits: 5. (Identical with MED 663, VY 663, ZY 663).

MCB 6520 (MCS 664) Viral Diseases.
Credits: 3. (Identical with MED 664).

MCB 6056 (MCS 666) Microbiology 1.
Credits: 6. (Identical with MED 666).

MCB 6051 C (MCS 667) Microbiology 2.
Credits: 6. (Identical with MED 667).

MCB 6457 C (MCS 668) Regulation in Biological Systems.
Credits: 5. (Identical with MED 668).

MCB 6937 (MCS 669) Seminar.
Credits: 1. (Identical with MED 669).

MCB 6486 (MCS 696) Experimental Microbiology.
Credits: 1 to 12. Prereq: 12 credits of Microbiology.

MCB 6917 (MCS 697) Supervised Research.
Credits: 1 to 5††

MCB 6990 (MCS 698) Supervised Teaching.
Credits: 1 to 5††

MCB 6916 (MCS 699) Master's Research.
Credits: 1 to 5††

MCB 7922 (MCS 750) Journal Colloquy.
Credits: 1 (Identical with MED 750).

MCB 7914 (MCS 751) Research Conference.
Credits: 1 (Identical with MED 751).

MCB 7918 (MCS 799) Doctoral Research.
Credits: 1 to 15††

MILITARY SCIENCE—AIR FORCE AEROSPACE Studies Program

INSTRUCTIONAL STAFF 1976-77
Smitherman, J.A. Col.; Funkhouser, R.E., Jr., Lt. Col.; Hilton, M.B., Jr. Capt.; Mullis, E.D., Capt.; Winge, G.H., Jr. Capt.

In addition to the requirements listed below, each student enrolled must participate in 10 hours of Leadership Laboratory each quarter. General Military Course students receive instruction on the environment of an Air Force Base, career opportunities available to a commissioned officer, and an introduction to military customs and courtesies. Advanced Professional Officer Course students participate in activities designed to permit practical application of leadership principles and techniques expected of a junior officer.

GENERAL MILITARY COURSE

AFR 1101 C (MAF 101) USAF Strategic Offensive Forces. F.
Credits: 1
Introduction to the history, mission, organization and doctrine of the United States Air Force. A study of U.S. Strategc Offensive Forces; the effects and employment of nuclear weapons, the Strategic Air Command and the Navy's Fleet Ballistic Missile System.

AFR 1111 C (MAF 102) USAF Strategic Defensive Forces. W.
Credits: 1
The concepts of aerospace defense and the mission and functions of NORAD, CONAD, and ADC. A study of the various systems and functions associated with defense against manned bombers and missiles.

AFR 1120 C (MAF 103) USAF General Purpose and Support Forces. S.
Credits: 1
A brief review of Army, Navy and Marine general purpose forces. An introduction to counterinsurgency and special operations. Tactical air power. A review of the Major Air Commands providing aerospace support functions; airlift, research and development, logistics and education and training.

AFR 2130 C (MAF 201) The Development of Airpower — The Basic and Early Aspects. F.
Credits: 1
The development of airpower from the beginning of manned flight through the inter-war years. Evolution of air tactics & strategy, and pre-World War II air doctrine. Discussion of the nature of war itself.

AFR 2131 C (MAF 202) The Development of Airpower — World War II, Berlin Airlift and Korean War. W.
Credits: 1
The development and use of airpower from 1941 through the early fifties. The concept of air superiority. Technological advances in aircraft, the independent Air Force.

AFR 2140 C (MAF 203) Development of Aerospace Power 1965 and into future. S.
Credits: 1
Discussion of the uses of airpower in the Middle East, Cuban Missile Crisis, Southeast Asia and North Vietnam. Concepts, doctrine, and the employment of aerospace power in the nuclear age. Peaceful employment of U.S. airpower and the future aspects of airpower.

PROFESSIONAL OFFICER COURSE

AFR 3220 C (MAF 311) Air Force Management. F.
Credits: 3
Introduction to Air Force Management. The individual motivational and behavioral processes, communication and group dynamics are covered to provide a foundation for the development of the Air Force junior officers' professional skills. Basic managerial processes are developed to aid in the problem-solving process.

AFR 3230 C (MAF 312) Air Force Leadership. W.
Credits: 3
A continuing development of the basic managerial processes, including communication and problem-solving. The exploration of Air Force personnel management. Introduction to, and the variables affecting Air Force leadership, and the professional responsibilities of the officer.

AFR 3231 C (MAF 313) The Air Force Junior Officer. S.
Credits: 3
Current trends in military management. Organizational and personal values; management of forces in change; organizational power; politics; managerial strategy and tactics; military justice and administration law are discussed within the context of the military organization. Communication and problem-solving are emphasized.

AFR 4201 C (MAF 411) The Military Profession and Society. F.
Credits: 3
Introduction to the Professional Officer Course. Heavy emphasis is placed on development of basic communicative skills. Trends in military professional development, civil-military relations.

AFR 4210 C (MAF 412) Elements of Defense Policy. W.
Credits: 3
International and domestic restraints in the formulation of defense policy, the foundations of modern strategy, evolving strategy in the nuclear age, and contemporary strategy and realistic deterrence.

AFR 4211 C (MAF 413) The Formulation and Implementation of U.S. Defense Policy. S.
Credits: 3
The bureaucratic inputs; the DOD, Congress and the President as organizational actors. Case Studies in policymaking, with emphasis on innovation and change. Officer classification and assignments.

MILITARY SCIENCE—ARMY ROTC

INSTRUCTIONAL STAFF 1976-77
Glikes, R.J., COL, PMS; Hardy, J.T., Maj.; McDowell, R.J., CPT; Gibbs, C., CPT; Knowlton, D., CPT.

There are no prerequisites for any courses. All 3000 and 4000 level courses are solely for advanced students. Acceptance to these requires approval of the Professor of Military Science.

Students in the 1000 and 2000 level courses may take either classwork (1 credit hour) or Leadership Laboratory (1 credit hour) or both (2 credit hours). Laboratory instruction is progressive beginning with basic drill and advancing to integrated application of leadership techniques and military equipment.

MIS 1022 C (MIS 101) The Army as a Profession. F.
Credits: 1
Introduction, purpose, history and organization of ROTC and the Army; the officer personnel management system; individual weapons instruction and application; introduction and application of map reading and communication principles.

MIS 1322 C (MIS 102) Introduction to the Military Team. W.
Credits: 1
Appreciation of the fundamentals and techniques of small unit tactics; emphasis on firepower, movement, communication; review of basic military team; develops understanding of duties, responsibilities, methods of patrolling.

MIS 1220 C (MIS 103) Components of Army Organization. S.
Credits: 1
The missions and roles of the various branches of the Army and their overall respective contribution to the functions of the Army.

MIS 1632 C (MIS 104) The Army as a Profession, S, SS.
Credits: 3
A broad concept of the US Army's mission and the roles played by newly commissioned officer in accomplishing same. Primarily basic skill training, successful completion of course constitutes credit for one year of AROTC permitting student to enter directly into second-year (sophomore) AROTC.

(MIS 105) Combination Course: Basic Skills, Tactics, Field Training. F, S, SS.
Credits: 5
A detailed concept of the US Army's mission and roles played by newly commissioned officers in accomplishing same. Primarily leadership training incorporating military tactics and techniques, map reading, communications, weaponry, etc. Course culminates in a 48 hour field training exercise. Successful course completion constitutes credit for freshman/sophomore AROTC.

MIS 1490 L (MIS 111) Freshman Leadership Laboratory, F.
Credits: 1
Laboratory consists of a two-hour bloc of instruction which directly supports freshman classroom instruction. Students may take classroom (MIS 1022) or laboratory or both.

MIS 1491 L (MIS 112) Freshman Leadership Laboratory, W.
Credits: 1
Laboratory consists of a two-hour bloc of instruction which directly supports freshman classroom instruction. Students may take classroom (MIS 1322) or laboratory or both.

MIS 1492 L (MIS 113) Freshman Leadership Laboratory, S.
Credits: 1
Laboratory consists of a two-hour bloc of instruction which directly supports freshman classroom instruction. Students may take classroom (MIS 1220) or laboratory or both.

MIS 2000 C (MIS 201) Your Place in the U.S. Army. F.
Credits: 1
An in-depth examination of the role played by junior officers in the U.S. Army to include potential duty stations and assignment, service customs and courtesies, obligations and benefits. Subject matter is viewed in light of both the tactical and non-tactical environment.

MIS 2601 C (MIS 202) Land Navigation and Introduction to Orienteering. W.
Credits: 1
Study and application of basic principles of maps and aerial photographs; terrain appreciation and evaluation; military and topographic map symbols and grid reference systems; orientation, intersection and resection; study and use of lensatic compass. Background of orienteering as a sport and techniques employed in successful competition.

MIS 2322 C (MIS 203) Theory and Dynamics of the Military Team 1. S.
Credits: 1
To develop an awareness of the principles and fundamentals of tactical operations and tactics with primary emphasis on the planning and coordinating required of a platoon leader and between the elements of the platoon team.

MIS 2493 L (MIS 211) Sophomore Leadership Laboratory. F.
Credits: 1
Laboratory consists of a two-hour bloc of instruction which directly supports sophomore classroom instruction. Students may take classroom (MIS 2000) or laboratory or both.

MIS 2495 L (MIS 213) Sophomore Leadership Laboratory. W.
Credits: 1
Laboratory consists of a two-hour bloc of instruction which directly supports sophomore classroom instruction. Students may take classroom (MIS 2601) or laboratory or both.

MIS 2496 L (MIS 214) Sophomore Leadership Laboratory. S.
Credits: 1
Laboratory consists of a two-hour bloc of instruction which directly supports sophomore classroom instruction. Students may take classroom (MIS 2322) or laboratory or both.

MIS 3610 C (MIS 301) Educational Psychology in the Military. F.
Credits: 3
An appreciation of the fundamental psychological concepts involved with methods of instruction and curriculum development as it is used in the military. Guest lecturers will provide the broadest possible background for students. Application opportunities will be afforded all students so that learned techniques can be practiced within a controlled environment.

MILITARY SCIENCE

MIS 3305 C (MIS 302) Theory and Dynamics of the Military Team 2. W.
Credits: 3
Leader's role in directing and coordinating individuals and small units in the execution of offensive and defensive tactical missions at company level; military geography, weapons and communications systems; intelligence gathering capabilities.

MIS 3423 C (MIS 303) Advanced Leadership and Management 1. S.
Credits: 3
An interdisciplinary study of military leadership and organizational behavior in theory and practice, emphasizing cultural, philosophical, and behavioral science foundations. Specific topics: The Scientific Method; Power and Authority Relationships; Leadership Behavior; Style and Personality; Attitude Formation and Change; Motivation; Group Dynamics; Communications; Organization Theory; Professionalism; and Contemporary Domestic Social Issues.

MIS 4430 C (MIS 401) Advanced Leadership and Management 2. F.
Credits: 3
A study of staff functions, the interaction between components of the Army, functions and controls of supporting units, logistics management and a general preview of career opportunities within the Army structure.

MIS 4423 C (MIS 402) Advanced Leadership and Management 3. W.
Credits: 3
A situational approach to leadership and management stressing group dynamics and role-playing. Principles and theories developed in Advanced Leadership and Management 1 & 2 coursework are applied by the student to conflict situations which occur in the tactical and non-tactical environment. Superior-subordinate and peer relationships are emphasized.

MIS 4426 C (MIS 403) Seminar in Military Leadership and Management. S.
Credits: 3
Analysis of selected leadership and management problems involved in unit administration, military justice and the Army Readiness Program. Discussion of the obligations of an officer on active duty, senior-subordinate relationships, and Army career planning.

MIS 4101 C (MIS 404) American Military History. F, W.
Credits: 3
Credit for MAR 404 will be awarded upon the completion of HY 543 or HY 544. Course descriptions are listed under the History Department.

MILITARY SCIENCE-NAVY ROTC

INSTRUCTIONAL STAFF 1976-77
Smith, L.D., Capt, Chairman; Stein, J.H., LCDR; Winer, P.D., Maj; Brooks, R.A., LCDR; DuBois, W.L., Lt; Horton, S.W., Lt.

NSC 1101 L (NRO 100) Naval Science Laboratory. F, W, S.
No Credits: (Two hours per week)
Drill, orientation, and information period.

NSC 1110 (NRO 111) Principles of Naval Organization. F.
Credits: 3
An introduction to the structure and principles of naval organization. Organizational concepts are examined including lines of command and control to the various major, intermediate, and basic shore establishment and sea-based units of the Navy and Marine Corps. Also included is a basic introduction to the U.S. Naval Service and its history including the traditions and customs.

NSC 1121 (NRO 112) Introduction to Naval Ships Systems I. W.
Credits: 3
The broad objectives of this comprehensive study are to learn the basic considerations for hull design of naval vessels, and to relate buoyancy, equilibrium, stability and the effects of flooding to the design characteristics of naval vessels, and to learn the basic principles of modern ship's systems.

NSC 1122 (NRO 113) Introduction to Naval Ships Systems II. S.
Credits: 3
A continuation of NRO 112, mostly oriented to ship's propulsion auxiliary systems and such topics as thermodynamics, electricity, and nuclear power and their interrelationships and interdependency of all of ship's systems to the successful mission of a ship.

NSC 2102 L (NRO 200) Naval Science Laboratory. F, W, S.
No Credits: (Two hours per week).
Drill, orientation, and information period.

NSC 2131 (NRO 211) Naval Weapons Engineering 1. F.
Credits: 3
An introduction to the characteristics and principles of operation of naval weapons systems with emphasis on capabilities and system interdependency.

NSC 2132 (NRO 212) Naval Weapons Engineering 2. W.
Credits: 3
A continuation of NRO 211.

NSC 2140 (NRO 213) Seapower and Maritime Affairs Seminar. S.
Credits: 2
A seminar to develop a working knowledge of an interest in seapower and maritime affairs. Discussions will include the forms and strengths, the economics and realities, and the power and influence of seapower.

NSC 3103 L (NRO 300) Naval Science Laboratory. F, W, S.
No Credits: (Two hours per week.)
Practical exercises dealing with the specifics of military organization and leadership.

NSC 3214 C (NRO 311) Navigation 1. F.
Credits: 3 (3 Lecture Hours, 1 Lab Hour.)
A comprehensive study of ship navigation. The course includes mathematical calculations, spherical triangulations, and the principles of electronic and inertial systems. Analysis of visual sights on terrestrial and celestial bodies is included along with study and practice with instruments, publications, charts, and report logs. This course differs markedly from ATY 305 in that it is more practical and proceduralized whereas the latter is more theoretical. It is designed for Naval Navigation and ATY 305 is oriented towards private sailing.

NSC 3215 C (NRO 312) Navigation II. W.
Credits: 3 (3 Lecture Hours, 1 Lab Hour). Prereq: NRO 311.
A continuation of NRO 311 mostly oriented toward celestial navigation.

NSC 3213 (NRO 313) Naval Operations. S.
Credits: 3
A comprehensive study of ship employment and movements. Tactical formations and dispositions, relative motion, the maneuvering, board, and tactical plots are analyzed for force effectiveness and unity. The nautical Rules of the Road, including lights, signals, and procedures, are also studied.

NSC 3221 (NRO 331) Evolution of Warfare 1. F.
Credits: 3
A study of the art, concepts, and evolution of warfare. Exploration of the forms of warfare practiced by the great peoples of history; an understanding of historical continuity and of change during important periods; develoment of a basic sense of strategy from historical examples; the ability to demonstrate the alternatives to past military actions; an examination of the great captains and military organizations to discover the ingredients of their success; and examination of the impact of historical precedent on military thought and action. This course is a substitute for NRO 311 for Midshipmen electing to enter the Marine Corps.

NSC 3222 (NRO 332) Evolution of Warfare II. W.
Credits: 3
A continuation of NRO 331 and a substitute for NRO 312 for Midshipmen electing to enter the Marine corps.

NSC 4104 L (NRO 400) Naval Science Laboratory. F, W, S.
No credits: (Two hours per week.)
Practical exercises dealing with the specifics of Naval organizations and leadership.

NSC 4230 (NRO 411) Naval Administration and Management. F.
Credits: 3
An introduction to the structure and principles of Naval administration and management. Current practices and the concepts underlying them are examined within the context of American social and industrial organization and practice. It includes lines of command and control; organization for logistics, service, and support; functions and services of major components of the Navy and Marine Corps; and shipboard organization. Emphasis is placed on management and leadership responsibilities.

NSC 4233 (NRO 412) Junior Naval Officer. W.
Credits: 3
The fundamental purpose of this course is to develop the student's appreciation of and familiarity with the duties and responsibilities of the Junior Naval Officer afloat with particular emphasis on the Division and Watch Officer areas.

NSC 4246 (NRO 413) Nuclear Power Analysis. S.
Credits: 3
An in-depth review of nuclear physics, electrical theory, fluid mechanics, thermodynamics, and chemistry as applied to the Naval Nuclear Propulsion Program. Introduction to principles of radiation, radiological controls, shielding, materials of construction, and propulsion plant operation. This course is intended primarily for Midshipmen entering the Nuclear Power Program.

NSC 4247 (NRO 414) Aviation Systems Analysis. S.
Credits: 3
An in-depth review of aviation related fields to include aviation physiology, survival, meteorology, aerodynamics, aircraft systems, and navigation as applied to the Naval Flight Program.

NSC 4248 (NRO 415) Surface Systems Analysis. S.
Credits: 3
The purpose of this course is to prepare surface warfare officer designates for Junior Officer assignments in Surface Warfare units and provide a practical foundation for attainment of qualification as Surface Warfare Officers. Upon completion of this course the student will be provided elementary skills and knowledge enabling him to serve as a Junior Officer of the Watch, Combat Information Center Watch Officer, and Inport Watch Officer.

NSC 4224 (NRO 431) Amphibious Warfare, I. F.
Credits: 3
A historical survey of the projection of seapower ashore. The course seeks to define the concept, explore its doctrinal origins, and trace its evolution as an element of naval policy during the twentieth century. The case study method is used alongside the theme of general historical continuity to develop an understanding of the relatively new and still maturing concept of amphibious warfare. (This course serves as a sub-

stitute for NRO 411 for Midshipmen electing to enter the Maine Corps.)

NSC 4225 (NRO 432) Amphibious Warfare II. W.
Credits: 3
A continuation of NRO 431 and a substitute for NRO 412 for Midshipmen electing to enter the Marine Corps.

MUSIC
College of Fine Arts

INSTRUCTIONAL STAFF 1976-77
Poole, R., Acting Chairman; Adams, E.A.; Bodine, W.R.; Bowles, R.W.; Brask, W.J.G.; Danburg, R.L.; Dorman, P.O.; Fouse, S.B.; Grigsby, J.R.; Hale, J.P.; Henderson, R.M.; Jaeger, I.C.; Keister, E.L.; Kitts, J.S.; Kushner, D.Z.; Langford, R.G.; Murray, T.W.; Ostoich, M.S.; Penland, A.C. Jr.; Small, T.S.; Sterrett, D.E.; Troupin, E.C.; Tyler, V.; White, C.B.; Wickes, F.B.; Wilmot, D.L.; Zumbro, J.M.

Degree programs in music include: the Bachelor of Music and Bachelor of Arts, in which degrees a student may major in music theory and composition, history and literature, church music, or applied music in piano, voice, organ, harpsichord, or in any orchestral instrument; the Bachelor of Music Education degree; the Master of Fine Arts; and the Master of Education degree with a major in music education. A prospective music major should consult the Department of Music adviser at his earliest opportunity, obtain detailed outlines of curricula and requirements, and make application for admission to music major status.

Music Performance Scholarships are available. Courses offered in the Department of Music are divided into five areas: Theory; History and Literature; Applied Music; Music Education; Ensemble.

Enrollment is open to all qualified University students — those preparing for a professional goal in music and those seeking a musical literacy for its cultural value.

MUSIC THEORY COURSES

MUT 1111,1112,1113 (MSC 101, 102, 103) Theory of Music 1, 2, 3, F, W, S.
Credits: 3 each course; Coreq.: MSC 104, 105, 106; 283, 71, 72; Registration in applied music study; and admission to music major status.
Rhythms, intervals, motifs, phrases, melodies, chords and chord progressions in the standard clefs through listening, playing, singing and writing. Chord study includes primary and secondary triads in root position and inversions, nonharmonic tones and diatonic seventh chords.

MUT 1241,1242,1243 (MSC 104, 105, 106) Theory of Music Lab 1, 2, 3. F, W, S.
Credits: 1 each course; Coreq.: MSC 101, 102, 103.
Sight-singing and dictation.

MUT 2116,2117,2118 (MSC 201, 202, 203) Theory of Music 4, 5, 6, F, W, S.
Credits: 3 each course; Coreq.: MSC 204, 205, 206; 73, 74, 75.
Modulation, secondary dominants, diminished sevenths, neapolitan and augmented sixths, chords of the ninth, eleventh and thirteenth.

MUT 2246,2247,2248 (MSC 204, 205, 206) Theory of Music Lab 4, 5, 6. F, W, S.
Credits: 1 each course; Coreq.: MSC 201, 202, 203.
Sight-singing and dictation.

MUT 3611 (MSC 303) Form and Analysis 1. W.
Credits: 4; Prereq.: MSC 203.
Analysis of the form and harmony employed in standard musical compositions through the classic period.

MUT 3612 (MSC 304) Form and Analysis 2. S.
Credits: 4; Prereq.: MSC 203.
Analysis of music of the nineteenth and twentieth centuries.

MUT 3321,3322 (MSC 305, 306) Instrumentation and Arranging 1, 2. W, S.
Credits: 4 each course; Prereq.: MSC 203 or equivalent.
Scoring for the instruments of the orchestra and band, singly and in various combinations.

MUC 3201, 3202 (MSC 307, 308) Composition, 1, 2. F, W.
Credits: 4 each course; Prereq.: Permission of instructor.
Composition in simple and extended forms, supplemented by analysis of selected compositions from the standard repertoire.

MUT 4411 (MSC 403) Modal Counterpoint. F, S
Credits: 4; Prereq.: MSC 203.
Free and strict counterpoint in the sixteenth century modal style through listening, reading, playing, singing, and writing.

MUT 4421 (MSC 404) Tonal Counterpoint, W, SS.
Credits: 4; Prereq.: MSC 203.
Counterpoint in the 18th-century style through listening, reading, playing, singing, and writing.

MUG 4101, 4102 (MSC 405, 406) Conducting 1, 2, F, W, S, SS.
Credits: 4 each course; Prereq.: Twelve credits in one area of applied music or permission of the instructor.
Basic techniques of choral and instrumental conducting.

MUC 4301 (MSC 407) Introduction to Electronic Music. W, SS.
Credits: 4; Prereq.: Permission of instructor.
Use of the synthesizer and tape recorder in composition.

MUG 4201 (MSC 408) Choral Conducting. W, SS.
Credits: 4; Prereq: 12 credits in 1 area of applied music, MSC 206 and 405; or permission of instructor.
Basic techniques of choral conducting, score analysis, interpretation, and development of ensemble tonal quality.

HISTORY AND LITERATURE COURSES

MUL 2011 (MSC 210) Introduction to Music Listening. F, W, S, SS.
Credits: 4
A fundamental course open to all students as an elective. Concert attendance, listening to records, reading, and discussion.

MUL 2112 (MSC 211) Masterworks of Music. W.
Credits: 4
Works of master composers in the various stylistic periods, 1600 to the present; Bach and Handel; Mozart and Haydn; Beethoven; the nineteenth and early twentieth century. Open as an elective to all students; may follow MSC 210 or may be taken separately.

MUL 2113 (MSC 212) Musical Structures. S.
Credits: 4
Symphonies, symphonic poems, opera, oratorio and solo and chamber works. Open as an elective to all students; may follow MSC 210 and 211 or may be taken separately.

MUL 2111 (MSC 217) Musical Styles. W, SS.
Credits: 4
Styles, forms, underlying ideas, rhythmic, melodic, and harmonic characteristics of each musical era related to the prevailing general culture.

MUL 3351 (MSC 311) Classic Literature. F.
Credits: 4; Prereq: MSC 210 or equivalent.
Music of the major composers of the Classic period, with special emphasis on Haydn, Mozart and Beethoven.

MUL 3341 (MSC 312) Baroque Literature. S.
Credits: 4; Prereq: MSC 210 or equivalent.
Compositions of Monteverdi, Gabrieli, Schutz, Buxtehude, Bach, Handel, and others.

MUL 3362 (MSC 314) Romantic Vocal Literature. F.
Credits: 4; Prereq: MSC 210 or equivalent.
Lieder, opera, music drama, oratorio, and vocal chamber music from Beethoven to Richard Strauss; analysis of form and style.

MUH 3541 (MSC 315) Latin-American Music. S.
Credits: 4; Prereq: MSC 210 or equivalent.
Representative works of the leading composers of Latin America, including Chavez, Villa-Lobos, Guarnieri, Sas, Williams, UribHolguin, Calvalho, Santa Cruz, Delgadillo, and Paz.

MUR 3401 (MSC 316) Organ Design and Literature. F.
Credits: 4; Primarily for organists.
Church architectural design and acoustics; liturgical forms; liturgical year; service music; service playing.

MUH 3211 (MSC 317) Survey of Music History 1. F.
Credits: 4; Prereq: MSC 217 or permission of instructor.
Antiquity, Middle Ages, and Renaissance.

MUH 3212 (MSC 318) Survey of Music History 2. W.
Credits: 4; Prereq: MSC 217 or permission of instructor.
Baroque and Classic periods.

MUH 3213 (MSC 319) Survey of Music History 3. S.
Credits: 4; Prereq: MSC 217 or permission of instructor.
Romantic and contemporary periods.

MUS 4665 (MSC 410) Music Criticism. SS.
Credits: 4; Prereq: MSC 210 or equivalent or permission of instructor.
History and literature of music criticism; practical experience in writing reviews of musical compositions and of live and recorded musical performances.

MUL 4371 (MSC 411) Contemporary Literture. S.
Credits: 4; Prereq: MSC 210 or equivalent.
Twentieth-century music literature, including works of Debussy, Ravel, Stravinsky, Schoenberg, Webern, Berg, Hindemith, Bartok, Copland, Sessions, Boulez, and Stockhausen.

MUH 4116 (MSC 412) History of Jazz. S.
Credits: 4
From African, Latin-American, and Black-American sources, through contemporary development.

MUL 4811 (MSC 413) The Music of J.S. Bach. SS.
Credits: 4
This course will survey the works of Bach with special emphasis on the historical sources of his choral and instrumental styles and detailed study of a selection of his chief works.

MUH 4331 (MSC 414) Renaissance Literature. W.
Credits: 4; Prereq: MSC 210 or equivalent.
Instrumental music, mass, madrigal, motet, and vocal polyphony from 1400 to 1600.

MUL 4361 (MSC 415) Romantic Instrumental Literture. W.
Credits: 4; Prereq: MSC 210 or equivalent.
Beethoven to Richard Strauss. Symphony, tone poem, chamber music, and piano works.

MUR 4801 (MSC 416) Music in Worship. W.
Credits: 4; Prereq: MSC 317, 318, 319, or equivalent.
Primarily for church music directors. Hymnology; choral literature for specific contexts; church music administration.

Descriptions

MUH 4561 (MSC 417) Music of Black Americans. F.
Credits: 4
African heritage; Colonial Period to the present, musical literature, performers, composers, Open as an elective to all students.

MUH 4501 (MSC 418) Non-Western Musics. W.
Credits: 4
Introduction to musics of non-western cultures in comparison with music of Western European Civilizations; the nature of music and the realm of ethnomusicology.

MUL 4813 (MSC 419) The Music of W.A. Mozart. S.
Credits: 4
The music, life and times of Mozart.

APPLIED MUSIC COURSES

GENERAL POLICY:

Applied Music courses, which are studio and class lessons in voice and musical instruments, are offered in voice, piano, organ, violin, viola, violoncello, string bass, flute, oboe, clarinet, bassoon, French horn, trumpet, trombone, tuba, percussion, saxophone, harp, harpsichord, recorder, and historical instruments. These courses are primarily for music majors. They are open to non-majors by special audition only.

The student registering for the first time for courses in Applied Music reports to the Chairman of the Department of Music, who designates a faculty member to audition and/or consult with the student and assign the student to the proper applied music course number.

The student should obtain from the Department of Music the publication, "Applied Music Study at the University of Florida."

S-U Grades option and auditing of courses in Applied Music are not permitted.

Freshman Courses (MSC 121 through 159) emphasize basic techniques. A student normally takes one of these courses for three quarters.

Sophomore Courses (MSC 221 through 259) emphasize repertory and mastery of the basic techniques of the performing medium. A student normally takes one of these courses for three quarters.

Junior Courses (MSC 321 through 359) and Senior Courses (MSC 421 through 459) are for advanced study. A student normally takes one of these courses for three quarters. Junior and senior recitals must be presented at the University of Florida.

The PERFORMER'S CERTIFICATE will be awarded at the discretion of the faculty to students who complete the graduation requirements of the Senior Courses.

MVK 1411, 2421, 3431, 4441 (MSC 121, 221, 321, 421) Piano. F, W, S, SS .
Credits: 3 each term.

MVK 1413, 2423, 3433, 4443 (MSC 123, 223, 323, 423) Organ. F, W, S, SS.
Credits: 3 each term.

MVV 1411, 2421, 3431, 4441 (MSC 125, 225, 325, 425) Voice. F, W, S, SS.
Credits: 3 each term.

MVS 1411, 2421, 3431, 4441 (MSC 127, 227, 327, 427) Violin. F, W, S, SS.
Credits: 3 each term.

MVS 1412, 2422, 3432, 4442 (MSC 129, 229, 329, 429) Viola. F, W, S, SS.
Credits: 3 each term.

MVS 1413, 2423, 3433, 4443 (MSC 131, 231, 331, 431) Cello, F, W, S, SS.
Credits: 3 each term.

MVS 1414, 2424, 3434, 4444 (MSC 133, 233, 333, 433) String Bass. F, W, S, SS.
Credits: 3 each term.

MVW 1411, 2421, 3431, 4441 (MSC 135, 235, 335, 435) Flute. F, W, S, SS.
Credits: 3 each term.

MVW 1413, 2423, 3433, 4443 (MSC 137, 237, 337, 437) Clarinet. F, W, S, SS.
Credits: 3 each term.

MVW 1412, 2422, 3432, 4442 (MSC 139, 239, 339, 439) Oboe. F, W, S, SS.
Credits: 3 each term.

MVW 1414, 2424, 3434, 4444 (MSC 141, 241, 341, 441) Bassoon. F, W, S, SS.
Credits: 3 each term.

MVB 1412, 2422, 3432, 4442 (MSC 143, 243, 343, 443) French Horn. F, W, S, SS.
Credits: 3 each term.

MVB 1411, 2421, 3431, 4441 (MSC 145, 245, 345, 445) Trumpet. F, W, S, SS.
Credits: 3 each term.

MVB 1413, 2423, 3433, 4443 (MSC 147, 247, 347, 447) Trombone. F, W, S, SS.
Credits: 3 each term.

MVB 1414, 2424, 3434, 4444 (MSC 148, 248, 348, 448) Euphonium
Credits: 3 each term.

MVB 1415, 2425, 3435, 4445 (MSC 149, 249, 349, 449) Tuba. F, W, S, SS.
Credits: 3 each term.

MVP 1411, 2421, 3431, 4441 (MSC 151, 251, 351, 451) Percussion. F, W, S, SS.
Credits: 3 each term.

MVW 1415, 2425, 3435, 4445 (MSC 153, 253, 353, 453) Saxophone. F, W, S, SS.
Credits: 3 each term.

MVS 1415, 2425, 3435, 4445 (MSC 155, 255, 355, 455) Harp. F, W, S, SS.
Credits: 3 each term.

MVK 1412, 2422, 3432, 4442 (MSC 157, 257, 357, 457) Harpsichord, F, W, S, SS.
Credits: 3 each term.

MVO 1414, 2424, 3434, 4444 (MSC 158, 258, 358, 458) Recorder. F, W, S, SS.
Credits: 3 each term.

MVO 1413, 2423, 3433, 4443 (MSC 159, 259, 359, 459) Historical Instruments. F, W, S, SS.
Credits: 3 each term.

MUSIC EDUCATION COURSES

MUE 2402 (MSC 260) Music Skills. F, W, S, SS.
Credits: 4
Fundamentals of music needed by the classroom teacher for teaching music in the elementary school. Not open to Freshmen. Students with sufficient background in music may exempt the course by examination.

MVK 2111, 2111, 2111, 2121, 2121, 2121 (MSC 261, 262, 263, 264, 265, 266) Piano Skills 1, 2, 3, 4, 5, 6. F, W, S, SS.
Credits: 1 each course.
1 hour of class instruction per week. Open only to music majors; required of all music majors until piano proficiency examination has been passed.

MUE 2470 (MSC 275) Percussion Skills. F, W, S.
Credits: 2; Open only to music majors.
Required of all music education majors. May be repeated for credit with departmental approval. Maximum: 6 credits.

MUE 2440 (MSC 277) String Skills. F, W, S.
Credits: 2; Open only to music majors.
Required of all music education majors. May be repeated for credit with departmental approval. Maximum: 6 credits.

MUE 2450 (MSC 279) Woodwind Skills. F, W, S.
Credits: 2; Open only to music majors.
Required of all music education majors. May be repeated for credit with departmental approval. Maximum: 6 credits.

MUE 2460 (MSC 281) Brass Skills. F, W, S.
Credits: 2; Open only to music majors.
Required of all music education majors. May be repeated for credit with departmental approval. Maximum: 6 credits.

MVV 2111 (MSC 283) Voice Skills. F, W, S, SS.
Credits: 2; Open only to music majors.
Required of all music education majors. May be repeated for credit with departmental approval. Maximum: 6 credits.

MUE 2403 (MSC 284) Instruments for General Music, K-12. F, SS.
Credits: 2; Open only to music education majors, or permission of instructor.
A skills course; recorder, guitar, and Orff instruments. Maximum: 6 credits.

MUY 3601 (MSC 366) Music in the Field of Recreation. W.
Credits: 4
The various uses of music in the field of recreation.

MUE 3113 (MSC 367) Music in Elem. Schools. W.
Credits: 5; Prereq.: MSC
Fundamental principles and procedures of music education in elementary school.

MUE 3320 (MSC 368) Music Education in the Middle School. SS.
Credits: 5; Prereq.: MSC 260 or equivalent.
Fundamental principles of music education in the middle school.

MUE 3030 (MSC 368) Music Ed. Secondary 7-12 S.
Credits: 5; Prereq.: MSC 367 or equivalent.
Fundamental principles and procedures of music education in the secondary school.

MUE 3401 (MSC 390) Music for the Elementary Child. F, W, S, SS.
Credits: 5; Prereq.: MSC 260 or equivalent;
Helps meet state certification requirements for elementary classroom teachers. Function of elementary school music in aiding the developmental growth of children.

MUE 4412 (MSC 460) Instrumental Music Materials and Administration. W, S
Credits: 4; Prereq.: MSC 369 or permission of instructor.
Examination, evaluation, and techniques of using instrumental materials in the music program. Fundamental principles and problems of organization and administration of this program.

MUE 4411 (MSC 461) Vocal Music Materials and Administration. W, SS.
Credits: 4; Prereq.: MSC 369 or permission of instructor.
Examination, evaluation and techniques of using vocal materials in secondary music program. Fundamental principles and problems of organization and administration of this program.

MUE 4404 (MSC 462) Elementary School Music Materials and Administration.
Credits: 4
Examination, evaluation and techniques of using materials in the elementary music program. Fundamental principles and problems of organization and administration of this program.

MUE 4343 (MSC 463) Orchestra Materials and Administration. W, SS.
Credits: 4; Prereq.: MSC 369 or permission of instructor.
Examination, evaluation and techniques of using string and orchestra materials in the music program. Fundamental principles of organization and administration of the orchestra program.

MUE 4480 (MSC 465) Marching Band Techniques. S, SS.
Credits: 4
Examination, evaluation, and practical application of marching band techniques for the high school and college band director.

MUS 4201, 4202 (MSC 471, 472) Language and Diction for Singers 1, 2.
Credits: 1 each course; Prereq.: MSC 125.
1 hour of class instruction per week. Open to students studying voice. Required of all music education majors whose principal applied music is voice.

MUT 4641 (MSC 481) Jazz Improvisation. S.
Credits: 2; Prereq.: Permission of instructor.

MVS 4145 (MSC 482) Harp Skills. F, W, S.
Credits: 2; Prereq.: Permission of instructor.
The harp in orchestra and chamber music with emphasis on writing for the instrument. For prospective conductors, arrangers, composers.

MUS 4905 (MSC 496) Projects and Problems in Music. F, W, S, SS.
Credits: 5
Individual work in music and music education. May be repeated for credit with change of content.

ENSEMBLE COURSES
Ensemble Credit. Six ensemble credit hours may be applied toward most non-music Bachelor degrees. In each term music majors must register for, and participate in, ensembles appropriate to their skills as required by the various music curricula. Each music major should have both large and chamber ensemble experience in his undergraduate career, as recommended by the individual applied music instructor. Lower Division students register for a 100-level number; Upper Division students register for a 300-level number. For ensemble participation, graduate students register for MSC 670, Graduate Ensemble.

MUN 1210, 3210 (MSC 170, 370) University Orchestra. F, W, S, SS.
Credits: 1; Prereq.: Permission of conductor.
Standard orchestra literature.

MUN 1310, 3310 (MSC 171, 371) Choral Union. F, W, S.
Credits: 1; Prereq.: Permission of conductor.
A mixed chorus. Study and performance of large choral works.

MUN 1330, 3330 (MSC 172, 372) Men's Glee Club. F, W, S.
Credits: 1; Prereq.: Previous choral or instrumental experience and permission of conductor.
Vocal training and public performance of standard male chorus repertoire.

MUN 1320, 3320 (MSC 173, 373) Women's Chorale. F, W, S.
Credits: 1; Prereq.: Previous choral or instrumental experience and permission of conductor.
Vocal training and public performance of standard repertoire for women's voices.

MUN 1100, 3100 (MSC 174, 374) University Band. F, W, S, SS.
Credits: 1; Prereq.: Permission of conductor.
Performance of standard band literature.

MUN 1470, 3470 (MSC 175, 375) Collegium Musicum. F, W, S, SS.
Credits: 1; Prereq.: Permission of instructor.
"For advanced students interest in performing early and unusual contemporary vocal and instrumental literature: Chamber Singers and Renaissance Ensemble."

MUN 1710, 3710 (MSC 176, 376) Jazz Bands. F, W, S, SS.
Credits: 1; Prereq.: Permission of director.
Standard and experimental jazz ensembles. A jazz laboratory.

MUN 1310, 3310 (MSC 181, 381) University Choir, F, W, S, SS.
Credits: 1; Prereq.: Permission of conductor.
An advanced choral group providing specialized study performance opportunities for vocally qualified students.

MUN 1460, 3460 (MSC 182, 362) Chamber Music Ensembles. F, W, S, SS.
Credits: 1; Prereq.: Permission of director.

MUO 3501 (MSC 383) Opera Workshop. F, W, S, SS.
Credits: 1; Prereq.: Permission of director.
Study and performance of works from opera and operetta.

MUN 3340 (MSC 386) University Chamber Singers. F, W, S, SS.
Credits: 1; Membership by audition and permission of instructor.
Study and performance of early and contemporary vocal literature.

MUN 3490 (MSC 387) Renaissance Ensemble. F, W, S, SS.
Credits: 1; Prereq.: Permission of director.
Study and performance of Renaissance instrumental music on authentic replicas of Renaissance instruments.

GRADUATE COURSES

The Master of Fine Arts degree in music (emphases in music history, literature and criticism, music theory and composition, applied music, sacred music, and conducting) is offered in the College of Fine Arts.

The Department of Music cooperates with the College of Education in offering courses leaning to the following degrees: Master of Education in music education (non-thesis degree); Master of Arts in Education in music education (thesis degree); Specialist in Education; Doctor of Education in college music teaching (emphasis in music education); Doctor of Philosophy in college music teaching (emphases in music history, literature and criticism, music theory and composition, performance practices, and music education).

(MSC 601) Graduate Music Theory Review.
Credits: 4

MUC 6401 (MSC 607) Composition of Electronic Music. S.
Credits: 4

MUT 6751 (MSC 608) Pedagogy of Music Theory. F, W, S, SS.
Credits: 4

MUT 6930, 7931 (MSC 609, 709) Topics in Music Theory. F, W, S, SS.
Credits: 4

MUS 6716 (MSC 611) Methods of Musical Research and Bibliography. F, SS.
Credits: 4

MUE 6396 (MSC 612) Methods of Research in Music Education. F, SS.
Credits: 4

MUH 6050 (MSC 613) Graduate Music History Review.
Credits: 4

MUH 6930, 7930 (MSC 615, 715) Topics in Musicology. F, S.
Credits: 4

MUL 6931, 7931 (MSC 616, 716) Topics in Music Literature. W, SS.
Credits: 4

MVO 6460, 7460 (MSC 621, 721) Applied Music. F, W, S, SS.
Credits: 3

MVO 6250, 7260 (MSC 622, 722) Secondary Applied Music. F, W, S, SS.
Credits: 3

MUE 6932, 7932 (MSC 667, 767) Topics in Music Education. F, W, S, SS.
Credits: 4

MUE 6143 (MSC 669) Music in the Schools. F, W, S, SS,
Credits: 2 to 9

MUN 6000 (MSC 670) Graduate Ensemble. F, W, S, SS.
Credits: 1

MUS 6905, 7905 (MSC 696, 796) Projects and Problems in Music F, W, S, SS.
Credits: 5

MUS 6910 (MSC 697) Supervised Research. F, W, S, SS.
Credits: 1 to 5††

MUS 6940 (MSC 698) Supervised Teaching. F, W, S, SS.
Credits: 1 to 5††

MUS 6971 (MSC 699) Graduate Recital or Master's Research. F, W, S, SS.
Credits: 1 to 15††
For additional courses in music education, see course listings, ED 663, 664, 665, 666, 667, 767.

NUCLEAR ENGINEERING SCIENCES
College of Engineering

INSTRUCTIONAL STAFF 1976-77
Ohanian, M.J., Chairman; Campbell, H.D. Carroll, E.E. Dalton, G.R. Diaz, N.J. Ellis, W.H.; Kylstra, C.D. Roessler, G.S.; Schneider, R.T.; Schoessow, G.J.; Wethington, J.A., Jr.

ENU 3002 (NES 300) Survey of Nuclear Technology in Modern Life. F, W, S.
Credits: 3; 3-1 hr lec; Prereq: Upper division standing or consent of instructor.
The impact of nuclear technology on our society. Fundamentals of nuclear fission and fusion processes with applications.

ENU 3012 (NES 301) History of Nuclear Energy. F, W, S.
Credits: 4; 4-1 hr lec; Prereq: Exposure to modern European and American history plus a year of natural science.
The evolution of nuclear weapons in World War II, change from military to civilian control, and maturation of nuclear power.

ENU 4101 (NES 400) Principles of Nuclear Reactors. F, S.
Credits: 4; 4-1 hr lec; 1-1 hr disc; Prereq: Senior standing or above.
Introduction to nuclear reactor concepts, instrumentation, operation, fuels, materials, shielding, and power generation for the non-nuclear engineering major.

††Grading is on a S-U basis only.

Descriptions

ENU 4103 (NES 401) Introduction to Nuclear Engineering 1. W.
Credits: 4; 4-1 hr lec; Coreq: PS 340 .
Elementary study of neutron reactions, neutron diffusion, multiplication factors for simple nuclear reactors, and time dependent behavior of nuclear systems.

ENU 4104 (NES 402) Introduction to Nuclear Engineering 2. S.
Credits: 4; 4-1 hr lec.
Continuation of NES 401. Study of elementary reactor control and instrumentation, radiation effects, nuclear materials, biological effects of radiation, health regulations.

ENU 4144 (NES 403) Introduction to Nuclear Engineering 3. W.
Credits: 4; 4-1 hr lec.
Continuation of NES 402. Study of shielding and radiation attenuation. Elementary reactor design based on the pressurized water concept.

ENU 4505 L (NES 404) Nuclear Engineering Laboratory 1. S.
Credits: 4; 2-1 hr lec; 2-4 hr lab; Prereq: NES 402.
A study of the experimental procedures used in reactor operation, personnel monitoring, radiation detection devices and the statistics of nuclear counting systems.

ENU 4134 (NES 405) Thermodynamics, Heat and Mass Transfer in Nuclear Systems. W.
Credits: 4; 4-1 hr lec; Prereq: ME 360.
Thermodynamic aspects of nuclear power, reactor heat generation and removal, and heat transfer and fluid flow.

ENU 4304 (NES 430) Applications of Nuclear Radiation and Energy 1, W.
Credits: 4; 4-1 hr lec; 1-1 hr disc.
The use of radioisotopes and ionizing radiation in solving engineering and research problems. The use of nuclear explosives for peaceful purposes will also be examined.

ENU 4601 (NES 431) Applications of Nuclear Radiation and Energy 2. S.
Credits: 3; 3-1 hr lec; 1-3 hr lab: Prereq: PS 340.
The application of radioactive materials and ionizing radiation for measurements in chemistry, phsics, engineering, geology, and astrophysics.

ENU 4405 (NES 432) Nuclear Processing and Separations. W.
Credits: 4; 4-1 hr lec; Prereq: Senior standing or above.
Chemical processing of fertile and fissile materials and irradiated fuels, changes in composition and reactivity during fuel irradiation, nuclear reactors and the chemical plants associated with them, waste disposal.

ENU 4605 (NES 435) Interaction of Radiation with Matter. W.
Credits: 4; 4-1 hr lec; Prereq: PS 340.
The processes by which radiation interacts with matter and applications in research, industry, and medicine.

ENU 4612 (NES 440) Nuclear Instrumentation Systems. F.
Credits: 4; 3-1 hr lec; 1-3 hr labs; Prereq: Senior standing or above.
Basic operational principles of radiation detection systems; counting circuitry and systems for radiation protection, nuclear reactor safety and control.

ENU 4912 (NES 451) Nuclear Power Reactor Design. F, S.
Credits: 4; 4-1 hr lec; Prereq: Senior standing or above.
Design of major systems and components of several types of nuclear power reactors.

††Grading is on a S-U basis only.

ENU 4704 (NES 470) Advanced Concepts for Nuclear Energy. F.
Credits: 4; 4-1 hr lec; 1-1 hr disc.
A basic introduction to plasmas is given with emphasis on engineering applications. The areas to be covered are: thermonuclear fusion, lasers, gas discharges, arcs, MHD power generation, and thermionic energy conversion.

ENU 4905 (NES 496) Special Problems in Nuclear Engineering Sciences. F, W, S, SS.
Credits: 1-6; 3 hr lab; Prereq: Recommendation of Department Chairman.
Individually selected problems or projects in the student's major field of engineering study. May be repeated up to maximum of 12 credits.

ENU 4944 (NES 499) Coop Work Experience Sciences. F, W, S, SS.
Credits: 1 to 5; 3 hr lab; Prereq: 4EG classification: one term of industrial employment, including extra work according to a preapprovec outline.
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

GRADUATE COURSES

ENU 5005 (NES 500) Fundamentals of Reactor Engineering.
Credits: 4

ENU 5414 (NES 533) Isotope Separation.
Credits: 3

ENU 5615 L (NES 540) Nuclear Radiation Detection and Instrumentation.
Credits: 4

ENU 5195 (NES 551) Nuclear Power Reactors 1.
Credits: 4

ENU 5186 (NES 555) Reactor Fuel Cycles.
Credits: 3

ENU 5176 L (NES 570) Principles of Nuclear Reactor Operations.
Credits: 4

ENU 5625 (NES 580) Bionucleonics.
Credits: 3

ENU 5626 (NES 584) Radiation Biology.
Credits: 5; (Ident. with MCS 584.)

ENU 5306 (NES 585) Radioisotope Theory and Techniques.
Credits: 5; (Ident. with BTY 565, MEd 565, Z 565.)

(NES 586) Radiation Biology Laboratory
Credits: 2 (Ident. with MCS 586)

ENU 6516 L (NES 600) Nuclear Engineering Laboratory 2.
Credits: 4

ENU 6517 L (NES 601) Nuclear Engineering Laboratory 3.
Credits: 4

ENU 6106 (NES 610) Reactor Analysis 1.
Credits: 3

ENU 6107 (NES 611) Reactor Analysis 2.
Credits: 3

ENU 6108 (NES 612) Advanced Reactor Analysis.
Credits: 3

ENU 6117 (NES 614) Neutron Transport Theory.
Credits: 3

ENU 6241 (NES 616) Numerical Methods of Reactor Analysis.
Credits: 4

ENU 6210 (NES 617) Computer Programs in the Nuclear Industry.
Credits: 4

ENU 6167 (NES 618) Principles of Fast Reactors.
Credits: 3

ENU 6168 (NES 619) Fast Reactor Analysis.
Credits: 3

ENU 6257 (NES 644) Nuclear Data Acquisition and Processing.
Credits: 4

ENU 6197 (NES 651) Nuclear Power Reactors 2.
Credits: 4

ENU 6147 (NES 652) Reactor Technology 1.
Credits: 4

ENU 6148 (NES 653) Reactor Technology 2.
Credits: 4

ENU 6636 (NES 655) Fundamental Aspects of Reactor Shielding.
Credits: 3

ENU 6126 (NES 660) Fundamentals of Reactor Kinetics.
Credits: 4

ENU 6127 (NES 661) Advanced Reactor Kinetics.
Credits: 3

(NES 670) Plasma Spectroscopy
Credits: 4

ENU 6745 (NES 673) Advanced Plasma Theory.
Credits: 4

ENU 6717 (NES 674) Thermonuclear Fusion.
Credits: 3

ENU 6707 (NES 678) Direct Energy Conversion.
Credits: 1

ENU 6627 (NES 680) Radiological Physics.
Credits: 4

ENU 6656 L (NES 682) Medical Radiation Instrumentation and Dosimetry.
Credits: 4

ENU 6307 L (NES 683) Radioactive Tracer Instrumentation and Methodology.
Credits: 4

ENU 6646 (NES 685) Field Problems in Radiation Control.
Credits: 1 to 3

ENU 6657 (NES 686) Nuclear Medicine Instrumentation and Procedure.
Credits: 5

ENU 6935 (NES 690) Nuclear Seminar.
Credits: 1

ENU 6936 (NES 691) Special Projects in Nuclear Engineering Sciences.
Credits: 1 to 9

ENU 6937 (NES 692) Special Topics in Nuclear Engineering Sciences.
Credits: 1 to 9

ENU 6906 (NES 696) Individual Work.
Credits: 1 to 6

ENU 6911 (NES 697) Supervised Research
Credits: 1 to 5††

ENU 6946 (NES 698) Supervised Teaching.
Credits: 1 to 5††

ENU 6971 (NES 699) Master's Research.
Credits: 1 to 15††

ENU 7980 (NES 799) Doctoral Research.
Credits: 1 to 15††

NURSING
COLLEGE OF NURSING

INSTRUCTIONAL STAFF 1976-77

Urey, B.I., Dean; Baker, A.S.; Barton, P.H.; Bodo, T.L.; Boss, B.J.; Bunke, B.J.; Clunn, P.A.; Cobb, B.A.; Courage, M.S.; Davies, M.J.; Davis, J.H.; Dougherty, M.C.; Dykes, E.E.; Frauman, S.A.; Godbey, K.L.; Harris, F.S.; Hayes, C.V.; Hilliard, M.E.; Irving, J.A.; Keeter, A.C.; Knowles, L.N.; Mon, B.E.; Moon, S.G.; Moore, J.L.; Nichols, M.A.; Pafford, V.M.; Paul, P.B.; Payne, D.B.; Reilly, C.J.; Rigdon, I.; Schilling, L.S.; Seymour, S.F.; Snider, M.J.; Strozier, V.R.; Sypert, N.S.; Taylor, C.E.; Turner, J.G.; Willams, D.D.; Willis, S.E.; Wilson, J.M.; Wilson, L.B.

DYNAMICS OF HUMAN BEHAVIOR SERIES. NUU 3160 C, NUU 3161 C, NUU 3162 C (NSG 305, NSG 306, NSG 307.) These human behavior courses are designed to provide the student with an understanding of the healthy states of man, man's reciprocal relationship to his environment, and the mechanism man uses to cope with himself and his environment.

NUU 3160 C (NSG 305) Dynamics of Human Behavior 1. F, W, S, SS.
Credits: 4; Prereq.: Admission to the College of Nursing. Coreq.: NSG 315.
Introduction to human behavior with emphasis on the interaction between the individual and his environment.

NUU 3161 C (NSG 306) Dynamics of Human Behavior 2. F, W, S, SS.
Credits: 5; Prereq.: NSG 305, NSG 315. Coreq.: NSG 316, NSG 325.
Continuation of the series. Emphasis on human behavior at selective stages of life.

NUU 3162 C (NSG 307) Dynamics of Human Behavior 3. F, W, S, SS.
Credits: 5; Prereq.: NSG 306, NSG 316. Coreq.: NSG 317, NSG 325.
Continuation of the series.

FIRST NURSING PROCESS SERIES NUU 3210 C, NUU 3220 C, NUU 3221 C (NSG 315, NSG 316, NSG 317.) This series of courses is designed to provide the student with experience utilizing the nursing process in the promotion and maintenance of health for selected individuals and families. Emphasis will be directed toward assessment, planning, implementation and evaluation. Nursing Process will be directed toward the biological, affective and cognitive domains of man.

NUU 3210 C (NSG 315) Nursing Process 1. F, W, S, SS.
Credits: 6; Prereq.: Admission to the College of Nursing. Coreq.: NSG 305.
Introduction to the nursing process with emphasis on assessment.

NUU 3220 C (NSG 316) Nursing Process 2. F, W, S, SS.
Credits: 8; Prereq.: NSG 305, NSG 315. Coreq.: NSG 306, NSG 325.
Continuation of the series. Emphasis on maintenance of health.

NUU 3221 C (NSG 317) Nursing Process 3. F, W, S, SS.
Credits: 8; Prereq.: NSG 306, NSG 316. Coreq.: NSG 307, NSG 325.
Continuation of the series. Emphasis on interdependent nursing actions to maintain health.

NUU 3431 (NSG 325) Professional Socialization 1. F, W, S, SS.
Credits: 2; Prereq.: NSG 305 and 315. Coreq.: NSG 306 and NSG 316.
Introduction to the role of the professional nurse and the relationship of nursing to the social structure.

HEALTH PROBLEMS SERIES NUU 4500 C, NUU 4501 C, NUU 4502 C (NSG 405, NSG 406, NSG 407.) This series deals with the analysis of major national health problems. These courses stress the impact of these problems on individuals, families and society, as well as the impact nursing has upon health problems. Health problems will be explored under several defined categories, such as, developmental, environmental and degenerative.

NUU 4500 C (NSG 405) Health Problems 1. F, W, S, SS.
Credits: 5; Prereq.: NSG 307, NSG 317; Coreq.: NSG 415.
Introduction to and analysis of major health problems.

NUU 4501 C (NSG 406) Health Problems 2. F, W, S, SS.
Credits: 5; Prereq.: NSG 405, NSG 415. Coreq.: NSG 416.
Continuation of the series.

NUU 4502 C (NSG 407) Health Problems 3. F, W, S, SS.
Credits: 5; Prereq.: NSG 406, NSG 416. Coreq.: NSG 417, NSG 425.
Continuation of the series.

SECOND NURSING PROCESS SERIES. NUU 4225 C, NUU 4226 C, NUU 4227 C (NSG 415, NSG 416, NSG 417.) This series of courses is designed to provide the student with experience in utilizing the nursing process in selected health care problems.

NUU 4225 C (NSG 415) Nursing Process 4. F, W, S, SS.
Credits: 8; Prereq.: NSG 307, NSG 317. Coreq.: NSG 405.
Course designed to provide the student with experience in utilizing the nursing process in selected health care problems. Emphasis on restoration, rehabilitation and prevention.

NUU 4226 C (NSG 416) Nursing Process 5. F, W, S, SS.
Credits: 8; Prereq.: NSG 405, NSG 415. Coreq.: NSG 406.
Continuation of the series.

NUU 4227 C (NSG 417) Nursing Process 6. F, W, S, SS.
Credits: 8; Prereq.: NSG 406, NSG 416. Coreq.: NSG 407.
Continuation of the series.

NUR 4943 C (NSG 418) Nursing Practicum. F, W, S, SS.
Credits: 10; All courses in the nursing major are prerequisite to this course.
The student will practice as nurse clinician in approved settings under faculty supervision.

NUU 4432 (NSG 425) Professional Socialization 2. F, W, S, SS.
Credits: 3; Prereq.: NSG 325; Coreq.: NSG 418.
This course is designed to assist students in analyzing and synthesizing components of the professional role in nursing.

NUR 4930 (NSG 430) Special Topics. F, W, S, SS.
Credits: 4; Prereq.: 11 hours of upper division nursing courses or consent of instructor.
At least one nursing course will be offered each quarter covering a selected topic. Prior to registration, students should contact the Dean's Office, College of Nursing for special topics offered.

NUR 4910 (NSG 496) Individual Study. F, W, S, SS.
Credits: 1 to 4; Prereq.: 11 hours of upper division nursing courses or consent of instructor.
Individual Study. Qualified students may choose particular care problems for study. Individual study may be extended for additional credit by permission of the college.

GRADUATE COURSES

NUR 5940 C (NSG 572) Internship in Professional Nursing.
Credits: 4; Max: 12.

NUU 6350 C (NSG 600) Patient Evaluation for Nurses.
Credits: 4

NUU 6651 (NSG 601) Developmental Theories: Implications for Nursing.
Credits: 4

NUR 6650 (NSG 602) Dimensions of the Nursing Profession.
Credits: 4

NUR 6931 (NSG 604) New Health-Related Roles.
Credits: 4

NUR 6660 (NSG 607) A Changing Health Delivery System.
Credits: 4

NUR 6350 C (NSG 625) Seminar and Clinical Experiences in Psychiatric Mental-Health Nursing 1.
Credits: 4

NUR 6351 C (NSG 626) Seminar and Clinical Experience in Psychiatric Mental-Health Nursing 2.
Credits: 4

NUR 6352 C (NSG 627) Seminar and Clinical Experiences in Psychiatric Mental-Health Nursing 3.
Credits: 4

NUR 6353 C (NSG 628) Seminar and Clinical Experiences in Psychiatric Mental-Health Nursing 4.
Credits: 4

NUR 6253 C (NSG 631) Physical Assessment of Patient Status.
Credits: 4

NUR 6250 C (NSG 632) Clinical Problems in Nursing the Adult Patient 1.
Credits: 4

NUR 6251 C (NSG 633) Clinical Problems in Nursing the Adult Patient 2.
Credits: 4

NUR 6252 C (NSG 634) Clinical Problems in Nursing the Adult Patient 3.
Credits: 4

NUR 6160 C (NSG 640) Pediatric Nursing: Problems of the Well Child.
Credits: 2

NUR 6161 C (NSG 642) Pediatric Nursing: The Ill Child.
Credits: 4

NUR 6163 C (NSG 643) Nursing Assessment of the Parent-Child Unit.
Credits: 4

NUR 6162 C (NSG 645) Seminar in Nursing Care of the Handicapped Child.
Credits: 4

NUR 6150 C (NSG 650) Nursing: Conception to Birth.
Credits: 4

NUR 6151 C (NSG 651) Nursing: Period of Early Infancy.
Credits: 4

NUR 6152 C (NSG 652) Nursing: Family Planning and Reproductive Health.
Credits: 4

NUR 6153 C (NSG 653) Seminar in Reproductive Health.
Credits: 4

ORNAMENTAL HORTICULTURE

NUU 6650 (NSG 660) Research Methods in Nursing.
Credits: 4

NUU 6435 (NSG 670) Seminar on Human Relations in Nursing.
Credits: 4

NUR 6945 (NSG 671) Practicum in Nursing.
Credits: 4 to 12

NUR 6931 (NSG 680) New Dimensions in Health in the Community
Credits: 4

NUR 6948 (NSG 690) Residency.
Credits: 4: Max: 12

NUR 6931 (NSG 695) Special Topics in Nursing.
Credits: 2 to 4

NUR 6906 (NSG 696) Individual Study.
Credits: 1 to 5

NUR 6917 (NSG 697) Supervised Research.
Credits: 1 to 5††

NUR 6944 (NSG 698) Supervised Teaching.
Credits: 1 to 5††

NUR 6971 (NSG 699) Master's Research.
Credits: 1 to 15††

OCCUPATIONAL THERAPY
College of Health Related Professions

INSTRUCTIONAL STAFF 1976-77
Llorens, L.A., Chairman; Adams, S.P.; Bradford, E.V.; Gill, A.A.; Maduro, L.A.; McCormack, G.L.; Menks, F.A.; Shoemyen, C.W.; Sieg, K.W.; Slaymaker, C.J.

See also course offerings under Health Related Professions (HRP).

OTH 2000 (OCT 201) Introduction to Occupational Therapy. F, W.
Credits: 2: Prereq.: HRP 101.
History, current practice and trends in occupational therapy. Types of employment in various health care systems.

OTH 3010 (OCT 300) Introduction to Clinical Procedures. F.
Credits: 2; Prereq.: Admission to Occupational Therapy Curriculum.
Basic skills required for occupational therapy practice.

OTH 3200 C (OCT 302) Applied Human Development. F.
Credits: 4; Prerq.: OCT 201.
Application to occupational therapy of principles of human growth and development.

OTH 3110 C (OCT 361) Therapeutic Skills. F, W, S, SS.
Credits: 3 to 12; Prereq. or Coreq: OCT 201 or consent of instructor.
Principles of hand and machine activities as applied to occupational therapy programs. Occupational Therapy majors require minimum of 9 credits.

OTH 4320 (OCT 421) Problems of Psychosocial Dysfunction 1. S.
Credits: 4; Prereq.: OCT 302, HRP 401.
First part of the sequence OCT 421-422. Occupational therapy evaluation and treatment of patients with psychosocial dysfunction.

OTH 4321 (OCT 422) Problems of Psychosocial Dysfunction 2. SS.
Credits: 4; Prereq: OCT 421.
Continuation of the sequence.

††Grading is on a S-U basis only.

(OCT 431) Musculoskeletal Anatomy. F.
Credits: 5
Lectures and intensive-laboratory study of the human musculoskeletal system with emphasis on the upper extremities.

OTH 4421 (OCT 441) Problems of Physical Dysfunction 1. S.
Credits: 4; Prereq: HRP 417, HRP 431.
First part of the sequence OCT 441-442. Occupational therapy evaluation and treatment of patients with neurological, orthopedic, medical and surgical disorders.

OTH 4422 (OCT 442) Problems of Physical Dysfunction 2. SS.
Credits: 4; Prereq: OCT 441.
Continuation of the sequence.

OTH 4810 (OCT 461) Practicum 1. W.
Credits: 2††; Coreq: OCT 302 or HRP 401.
First part of the sequence OCT 461-462-463. Designed to prallel academic course work. Supervised experience in local clinical settings.

OTH 4811 (OCT 462) Practicum 2. S.
Credits: 2††; Prereq: OCT 461; Coreq: OCT 421, OCT 441.
Continuation of the sequence.

OTH 4812 (OCT 463) Practicum 3. F.
Credits: 2††; Prereq: OCT 462; Coreq: OCT 422, OCT 442.
Continuation of the sequence.

OTH 4845 (OCT 465) Internship 1. S.
Credits: 12; Prereq: Permission of Department Chairman.
First part of the sequence 465-466. Supervised clinical experience in facilities approved by the department.

OTH 4846 (OCT 466) Internship 2. SS.
Credits: 12; Prereq: OCT 465.
Continuation of sequence.

OTH 4935 (OCT 480) Occupational Therapy Seminar. W.
Credits: 4; Prereq: Senior classification.
Selected readings and discussions of current developments in the field of occupational therapy, Individual iinvestigations and reports on assigned topics.

GRADUATE COURSES

OTH 6770 (OCT 600) Research Methods in Occupational Therapy.
Credits: 3

OTH 6780 (OCT 601) Proseminar.
Credits: 3

OTH 6418 (OCT 603) Clinical Problems.
Credits: 4

OTH 6419 (OCT 604) Clinical Problems.
Credits: 4

OTH 6539 (OCT 613) Seminar: Occupational Therapy Management.
Credits: 4

OTH 6549 (OCT 614) Seminar: Occupational Therapy Management.
Credits: 4

OTH 6827 (OCT 651) Advanced Specialty Practicum.
Credits: 3 to 5

OTH 6861 L (OCT 655) Specialty Residency.
Credits: 3 to 15

OTH 6909 (OCT 696) Individual Work.
Credits: 1 to 15

ORNAMENTAL HORTICULTURE
College of Agriculture

INSTRUCTIONAL STAFF 1976-77
Carpenter, W.J., Chairman; Barrick, W.E.; Conover, C.A.; Dudeck, A.E.; Johnson, C.R.; Joiner, J.N.; McConnell, D.B.; Nell, T.A.; Sheehan, M.R.; Sheehan, T.J.; Witte, W.T.

ORH 3813 (OH 320) Introduction to Residential Landscape Horticulture. F. (SS even years)
Credits: 3
An introductory coverage of the factors involved in (a) growth and development of landscape plants, (B) selection and adaptation of basic landscape plants and (C) principles involved in home landscape planning. (Not for major credit of students in Ornamental Horticulture or Landscape Architecture.)

ORH 3803 (OH 321) Introduction to the Interior Use of Plants. W. (SS odd years)
Credits: 3
An introductory coverage of the function and use of plants and cut flowers in the home as well as factors influencing growth and development of house plants in containers and planters. (Not for major credit of students in Ornamental Horticulture and Landscape Architecture.)

ORH 3513 C (OH 331) Fundamentals of Ornamental Plant Classification. F, SS.
Credits: 4; Prereq.: BTY 181, PLS 201 or permission of the instructor.
A study of the classification and identification of ornamental plants by floral and vegetative characteristics. Introduction to their use, growth characteristics and adaptation in various landscape situations.

ORH 3514 C (OH 332) Identification of Basic Ornamental Plants. W.
Credits: 4; Prereq.: OH 331 or permission of the instructor.
Identification, growth characteristics, culture and use of common landscape plants. Materials include basic trees, palms, shrubs, vines and ground covers utilized in general landscape beautification.

ORH 3516 (OH 333) Herbaceous and Exotic Plant Materials. S.
Credits: 4; Prereq.: OH 331 or permission of the instructor.
Herbaceous, semi-herbaceous, exotic and woody plant materials suitable for specialized landscape and interior decorative purposes. Materials include annuals, perennials, foliage plants and succulents.

ORH 3611 (OH 340) Retail Florist Shop Management. S.
Credits: 4; No Prerequisites.
A basic course in the operations of a retail florist shop, including management, shop design and layout, psychology of selling, post harvest handling of flowers and the principles of artistic design.

ORH 3731 (OH 343) Biological Illustrations. S.
Credits: 4; No prerquisites.
A basic course in the preparation of scientific illustration, including uses of illustration, materials, equipment, layout, design, and preparing sketches to scale. Techniques covered include pen and ink, water color, scratch board, and carbon dust.

ORH 3231 (OH 363) Grounds Maintenance. S.
Credits: 4; (Ident. with LAE 363); Prereq.: OH 331.
Basic principles of landscape horticulture are reviewed in lecture sessions and design plans and real situations are analyzed in the laboratory. Both preventive and normal maintenance measures are considered. This course provides a comprehensive survey of landscape maintenance problems with emphasis on institutional

and public areas for students interested in landscape design.

ORH 3534 (OH 364) Relationships of Ornamental Plants to the Urban Environment. W.
Credits: 3
To provide the student with a basic appreciation and elementary understanding of the complex man-made environmental situations influencing ornamental plants.

ORH 3815 C (OH 365) Introduction to Landscape Horticulture. W.
Credits: 4; Prereq.: OH 331; OH 332 advisable.
A basic course in the study of residential landscapes including preparation, evaluation and implementation of simple landscape plans. Emphasis will be placed on the use of oramental plants for functional and aesthetic improvement of the home environments.

ORH 4941 (OH 400) Full Time Practical Work Experience in Ornamental Horticulture. F, W, S, SS.
Credits: 1 to 4; S-U Grade only. Prereq.: Prior arrangement with adviser, approval of Dept. Chairman and Dean.

ORH 4931 (OH 403) Ornamental Horticulture Seminar. F, W, S.
Credits: 1
Selected reading, reports and discussion of current literature on ornamental horticultural topics. Emphasis is placed on various means of communication as an aid in understanding and evaluating technical inormation.

ORH 4251 (OH 420) Principles of Nursery Operations. S.
Credits: 4; Prereq: PLS 301, 311, and OH 441, or permission of instructor.
Principles and practices of nursery operation; including a study of factors influencing the growth, maintenance and marketing of container and field grown woody ornamental plants and the preparation of nursery layout plans.

ORH 4232 (OH 421) Arboriculture. F.
Credits: 2; Prereq: OH 441, SLS 330 and OH 331 or with permission of instructor.
Principles and practices of planting, establishing and maintaining woody ornamental trees and shrubs.

ORH 4242 L (OH 422) Arboriculture Laboratory. F.
Credits: 2; Prerq. or coreq: OH 421.
Practices of maintaining ornamental trees and shrubs.

ORH 4411 (OH 441) Physiological Aspects of Ornamental Plant Production. F. S.
Credits: 4; Prereq.: BTY 310, BTY 311 and PLS 201.
Physiological and environmental factors affecting growth and yield of ornamental crops. Greenhouse and field production are both considered.

ORH 4263 (OH 442) Production of Floricultural Crops. W.
Credits: 4; Prereq: OH 441 or permission of the instructor.
Production, handling and marketing of major and potential floricultural, foliage and fern crops in Florida and the Southeast.

ORH 4263 L (OH 443) Floricultural Crops Production Laboratory. 1. W.
Credits: 1; Prereq: OH 441. Coreq: OH 442 or permission of instructor.
A two-part laboratory designed to enable ornamental horticulture majors to become familiar with actual problems involved in the production of floricultural, foliage and fern crops. The two quarter sequence is necessary so students can experience the complete life cycle in production of important commercial crops.

ORH 4264 L (OH 444) Floricultural Crop Production Laboratory II. S.
Credits: 1. Prereq.: OH 443.
The second half of OH 443. (These courses must be taken in numerical sequence.)

ORH 4221 (OH 462) Turfgrass Culture. F.
Credits: 4; Prereq: OH 441 or with permission of instructor.
Size and scope of turfgrass industry and basic aspects of adaptation, establishment, and maintenance of turfgrasses are included in lecture and laboratory sessions. The use, care, and operation of turf machinery is demonstrated.

ORH 4413 (OH 463) Turfgrass Science. W.
Credits: 3; Prereq: OH 462.
In-depth treatise of basic concepts concerning growth and management of turfgrasses including soils, fertilization, water relations, and pest control practices.

ORH 4932 (OH 496) Special Topics and Independent Study in Ornamental Horticulture. F, W, S, SS.
Credits: 1 to 8
Four sections of topics for independent study are offered: A — Research investigation including review of literature, drafting of a proposal, conduct of an experiment, collection of data, summation and interpretation of results and preparation of a report. B — Library or Studio Assignment, including analysis of several sources of information on a specific topic with a written evaluation and list of conclusions prepared. C — Advanced undergraduate research consisting of a continuation of experience in research with a specific plant commodity and conducted as in section A.

LAE 353 may be taken for OH major credit.
For additional courses related to Ornamental Horticulture — see Plant Science.)

GRADUATE COURSES
[Offered Under Horticultural Science.]

PEST MANAGEMENT AND PLANT PROTECTION
College of Agriculture, Special Program

The crop-science departments and the supporting disciplines of Entomology-Nematology, Weed Science (Plant Sciences), Plant Pathology, and the School of Forest Resources and Conservation offer the following general and cross-departmental courses in Pest Management and Plant Protection.

PMA 3010 (PM 313) Fundamentals of Plant-Pest Management. F.
Credits: 3
Principles of the science that treats the subject of controlling plant pests through integrated systems of management.

PMA 3931 (PM 321) Seminar in Basic Plant-Pest Management. W.S.
Credits: 2; Prereq.: PM 313.
Group study and discussion of the fundamental concepts that relate to Plant-Pest Management as a science.

PMA 3941 (PM 340) Internship in Plant-Pest Management. F, W,S,SS.
Credits: 3 to 4; Prereq.: PM 313.
On-the-job training as paid, full-time apprentices to pest-management professionals for a minimum of 8 weeks. Enrollment is restricted to students specializing in the program of Pest Management and Plant Protection.

PMA 4933 (PM 421) Seminar in Applied Plant-Pest Management. S.
Credits: 1; Prereq.: PM 313, PM 340 recommended, and Senior standing.
Group study and discussion of the arts and skills essential to the successful practice of integrated plant-pest management.

PMA 4401 (PM 435) Systems of Pest Management and Plant Protection. W.
Credits: 3; Prereq.: PM 313, PM 321.
How problems in plant-pest management are solved through procedures involving systems-analysis, studies of pest management in terms of cost-benefit analysis, and the integration of pest-control practices into a unified management system applicable to different crop plants as exemplified through case-history studies.

PMA 4402 L (PM 436) Laboratory Exercises in Pest Management. W.
Credits: 2
The laboratory work will emphasize tactics of pest control, and systems, modeling and simulation of crop-pest interactions.

PHARMACEUTICAL CHEMISTRY
College of Pharmacy

INSTRUCTIONAL STAFF 1976-77
Hammer, R.H., Chairman; Andresen, B.D.; Finger, K.F.; Gramling, L.G.; Panzik, H.L.; Rao, K.V.; Schulman, S.G.

PHA 4413 (PCY 421) Thin Layer Chromatography. F.
Credits: 4; Prereq: PCY 447 or permission of instructor.
Lecture and Laboratory course for the study of methods for qualitative and semiquantitative determination of drugs in pharmaceutical products by thin layer chromatography (TLC). Identification of drugs by thin layer chromatography.

PHA 4411 (PCY 445) Analytical Pharmaceutical Chemistry. F.
Credits: 4; Prereq.: CY 382, PHY 307.
Chemical and instrumental methods of analysis with emphasis on the determination of drugs in dosage forms and biological fluids.

PHA 4412 L (PCY 447) Analytical Pharmaceutical Chemistry. W,S.
Credits: 2; Prereq.: PCY 445.
The laboratory experiments to reinforce Analytical Pharmaceutical Chemistry (PCY 445).

PHA 4765 (PCY 451) Veterinary Pharmaceutical Products. W.
Credits: 3; Prereq.: PCY 455.
The Chemistry or composition, uses, and manufacturers of the more important veterinary drugs.

PHA 4435 (PCY 455) Pharmaceutical Chemistry 1. F.
Credits: 5; Prereq.: CY 382, PHY 307.
Correlation of physical, chemical, and biological properties of therapeutically useful inorganic and organic compounds including radio-pharmaceuticals and structure-activity relationships.

PHA 4436 (PCY 456) Pharmaceutical Chemistry 2. W.
Credits: 5; Prereq.: PCY 455.
The second quarter of PCY 455-456-457.

PHA 4437 (PCY 457) Pharmaceutical Chemistry 3. S.
Credits: 5; Prereq.: PCY 455.
The third quarter of PCY 455-456-457.

PHA 4350 (PCY 461) Natural Products. S, SS.
Credits: 4; Prereq.: PHY 307.
Plant and animal products used in pharmacy.

PHA 4438 (PCY 464) Pharmaceutical Specialties. W.
Credits: 4; Prereq.: PCY 455.
The chemistry or composition, use, manufacturers, and drug interactions of the more important specialties, including hormones and vitamins, found in prescriptions.

Descriptions

PHARMACY

PHA 4439 (PCY 465) Pharmaceutical Specialties. S.
Credits: 4; Prereq.: PCY 455.
The second half of PCY 464-465.

PHA 4909 L (PCY 496) Problems in Pharmaceutical Chemistry. F, W, S, SS.
Credits: 1 to 3††; Prereq.: PCY 455, and average of 2.75 in all CY and PCY courses taken and permission of the chairman of the department.
Library and/or laboratory research on assigned subjects. May be repeated for a maximum of 9 credits with approval of department chairman.

GRADUATE COURSES

PHA 6934 (PCY 607) Seminar in Pharmaceutical Chemistry.
Credits: 1

PHA 6470 (PCY 611) Synthetic Medicinal Products I.
Credits: 3

PHA 6471 (PCY 612) Synthetic Medicinal Products II.
Credits: 3

PHA 6472 L (PCY 613) Synthetic Medicinal Products I.
Credits: 3

PHA 6473 L (PCY 614) Synthetic Medicinal Products II.
Credits: 3

PHA 6474 (PCY 615) Synthetic Medicinal Products III.
Credits: 3

PHA 6365 C (PCY 617) Advanced Histology and Microscopy of Vegetable Drugs.
Credits: 5

PHA 6367 L (PCY 618) Microanalytical Pharmacognosy.
Credits: 2

PHA 6375 C (PCY 619) Cultivation and Processing of Medicinal Plants.
Credits: 3

PHA 6354 (PCY 621) Natural Medicinal Products I.
Credits: 3

PHA 6355 (PCY 622) Natural Medicinal Products II.
Credits: 3

PHA 6357 L (PCY 623) Natural Medicinal Products. I.
Credits: 3

PHA 6358 L (PCY 624) Natural Medicinal Products II.
Credits: 3

PHA 6356 (PCY 625) Natural Medicinal Products III.
Credits: 3

PHA 6416 (PCY 631) Pharmaceutical Analysis I.
Credits: 5

PHA 6417 (PCY 632) Pharmaceutical Analysis II.
Credits: 5

PHA 6418 (PCY 633) Pharmaceutical Analysis III.
Credits: 5

PHA 6445 (PCY 642) Chemobiodynamics.
Credits: 5

PHA 6911 C (PCY 696) Research Procedures in Pharmaceutical Chemistry.
Credits: 2 to 6

† Maximum students per instructor.
††Grading is on a S-U basis only.

PHA 6914 L (PCY 697) Supervised Research.
Credits: 1 to 5††

PHA 6991 (PCY 698) Suervised Teaching.
Credits: 1 to 5††

PHA 6917 L (PCY 699) Master's Research.
Credits: 1 to 15††

PHA 7981 L (PCY 799) Doctoral Research.
Credits: 1 to 15††

PHARMACOLOGY
College of Medicine

INSTRUCTIONAL STAFF 1976-1977

Maren, T.H., Chairman, Garg, L.C., Coordinator; Carlson, G.M.; Chapman, S.K.; Chiou, C.; Kadzielawa, C.; Kem, W.R.; Leibman, K.C.; Muther, T.F.; Silverman, D.N.; Travis D.M.; Vogh, B.P.

PHA 4904 (PLY 454) Pharmacology Research, F, W, S, SS.
Credits: 3; Prereq.: B-average and permission of the Co-ordinator
Laboratory or literature investigations of problems of current interest.

PHA 4516 (PLY 465) Physiology-Pharmacology 1. S.
Credits: 5; Prereq.: PHY 361, PHY 363 or permission of the Co-ordinator.
Principles of Pharmacology based on conjoint discussion of normal and abnormal physiologic and biochemical mechanisms. Special emphasis on drug distribution, metabolism, acid-base balance, digestive and excretory mechanisms.

PHA 4517 (PLY 491) Physiology-Pharmacology 2. F.
Credits: 5; Prereq.: PLY 465.
Continuation of PLY 465 with special emphasis on nervous, and cardiovascular function.

PHA 4518 (PLY 492) Physiology-Pharmacology 3. W.
Credits: 5; Prereq.: PLY 491.
Continuation of PLY 491 with special emphasis on respiratory and endocrine function, and chemotherapy.

PHARMACY
College of Pharmacy

INSTRUCTIONAL STAFF 1976-77

Finger, K.F., Chairman; Angorn, R.A., Associate Chairman; Field, F.P., Associate Chairman; Perrin, J.H., Associate Chairman; Stewart, R.B., Associate Chairman; Araujo, O.E.; Becker, C.H.; Boudin, H.M.; Ciezkowski, J.; Curtis, R.L.; Doering, P.L.; Garrett, E.R.; Harrison, W.; Haupt, C.S.; House, M.L.; Johnson, S.; Lemberger, M.A.; McCormick, W.C.; McKenzie, M.W.; Pevonka, M.P.; Torosian, G.; Vilallonga, F.; Yost, R.L.

PHA 3050 (PHY 300) Introduction to Pharmacy. F.
Credits: 2; Prereq.: Pharmacy classification or permission.
Events leading to the development of the profession and the pharmaceutical industry. An introduction to drugs, dosage forms and processes.

PHA 3110 C (PHY 301) Pharmaceutics 1. F.
Credits: 5; Prereq.: PS 211, CY 382.
The first course of the sequence PHY 301-303-307. The course sequence covers the measurement, description and prediction of physical and chemical parameters used in the systems and operations necessary for pharmaceutical product development and dosage forms. Stability and pharmacokinetics, properties of dosage forms, and pharmaceutical adjuncts are also discussed.

PHA 3111 C (PHY 303) Pharmaceutics 2. W.
Credits: 5; Prereq.: PHY 301.
The second course of the sequence PHY 301-303-307.

PHA 3112 C (PHY 307) Pharmaceutics 3. S.
Credits: 5; Prereq.: PHY 303.
Third course of the sequence PHY 301-303-307.

PHA 3630 C (PHY 315) Practicum Clerkship. W, S.
Credits: 5; Prereq.: 3PH Classification.
This course is an orentation to pharmacy practice and an introduction to the administrative management, activities, drugs and dosage forms used in pharmacy practice.

PHA 3500 C (PHY 361) Applied Human Anatomy. F.
Credits: 5; Prereq.: ZY 202 and pharmacy classification.
Gross anatomy of the important organ systems of the human and mammalian.

PHA 3501 C (PHY 363) Applied Human Histology. W.
Credits: 5; Prereq.: PHY 361.
Microscopic study of the important tissues and organs of the human and mammalian.

(PHY 401) Therapeutic Principles and Drug Therapy. F, S.
Credits: 4; Prereq.: 4NR - 2 quarters of clinical experience in hospital or 4PH classification.
An overview for nursing and pharmacy students for the study of pharmacological and therapeutic principles of drug therapy. Basic mechanisms of drug action, adverse effects, contraindications, dosages, interactions, and pharmacotherapeutic indicaions are stressed.

PHA 4120 (PHY 403) Pharmaceutics 4 - Biopharmaceutics. W.
Credits: 4; Prereq.: PH 307 Introductory Biopharmaceutics.
An introduction to the study of the time course of drugs in the body with reference to their absorption, distribution, metabolism and elimination. Consideration is given to rate processes, the physiochemical influences on ADME and formulation factors involved in drug delivery and availability.

PHA 4140 C (PHY 407) Manufacturing Pharmacy. F.
Credits: 4; Prereq.: PHY 307
Source of raw materials, production costs, manufacturing procedures, and preparation of various pharmaceutical dosage forms on a pilot-plant scale.

PHA 4720 (PHY 413) Pharmacy and Society. S.
Credits: 3; Prereq.: Pharmacy classification or permission.
Pharmacy from its beginning to today with emphasis on the effects of changing social patterns on the various areas of the profession.

PHA 4631 C (PHY 415) Practicum Clerkship. F, W.
Credits: 3; Prereq: PHY 315.
Introduction to the professional activities of the prescription department intended to identify and develop the competencies essential to the pharmacist's dispensing functions.

PHA 4821 (PHY 423) Clinical Radiopharmacy. W.
Credits: 4; Prereq: Pharmacy classification or permission.
Basic physical phenomena of radiation and how radiopharmaceuticals are used in diagnosing disease states. Correlation of the patho-physiology of disease and disease states of the organ systems.

PHA 4740 (PHY 427) The Pharmacist and Dynamics of Patient Care. F.
Credits: 3; Prereq: Pharmacy classification.
The perception of disease from the vantage point of the society, the patient, and the health professional. Patient and pharmacist roles are discussed in terms of health needs.

PHA 4735 C (PHY 429) Drugs and Society. F, W, S, SS.
Credits: 3††
A course designed to familiarize the student with the pharmacological, psychological, and sociological aspects of drug misuse.

PHA 4232 (PHY 453) Pharmaceutical Law. F.
Credits: 5; Prereq: 5PH Classification.
A study of the federal, state, and local laws and regulations relating to all aspects of the profession of pharmacy.

PHA 4750 (PHY 463) Public Health and Communicable Diseases. W.
Credits: 4; Prereq: MCY 302 and BCH 412.
Prevalent community infectious diseases such as those caused by bacteria, viruses, rickettsia, protozoa, and fungi. Allergy and immunity are discussed.

PHA 4930 (PHY 471) Pharmacy Seminar. F, W, S.
Credits: 2††; Prereq: 5PH Classification.
Literature investigations and reports by students on problems in pharmacy of current interest.

PHA 4202 (PHY 473) Pharmaceutical Administration 1. F.
Credits: 4; Prereq: 5PH Classification
The first part of the course PHY 473-474. A study of the activities involved in the distribution of pharmaceutical goods and services and the effect of third party payment plans on pharmaceutical distribution.

PHA 4211 (PHY 474) Pharmaceutical Administration. 2. W.
Credits: 5; Prereq: PHY 473
The second part of the course PHY 473-474. A study of the principles and problems of planning, organizing and controlling a community pharmacy.

PHA 4150 (PHY 480) Hospital Pharmacy. W.
Credits: 3; Prereq: PHY 301.
An introduction to the practice of pharmacy in hospitals.

PHA 4506 (PHY 482) Body Fluids and Electrolytes. S.
Credits: 4; Prereq: PLY 491.
Pharmacological treatment of topics related to body fluids, electrolytes, acid-base balance, ion exchange resins, carbonic anhydrase inhibitors, plasma extenders, and parenteral alimentation.

PHA 4760 (PHY 485) Dermatological Drug Products and Their Uses. F.
Credits: 3; Prereq: PHY 307, MCY 302.
A study of dermatological drugs of choice in the treatment of the various abnormal skin conditions. The importance of the role of the pharmacist in this area is emphasized and discussed.

PHA 4660 (PHY 487) Clinical Psychiatric Pharmacy. S.
Credits: 4; Prereq: BCH 412, PLY 465 or permission.
Introduction to the use of psychotherapeutic agents in treating emotional disorders.

PHA 4103 C (PHY 490) Professional Practice. S.
Credits: 4; Prereq: PHY 307.
Methods of compounding and dispensing prescriptions, of detecting and overcoming incompatibilities, and checking and pricing prescriptions. The application of pharmaceutical adjuncts.

PHA 4632 C (PHY 495) Practicum Clerkship. F, W, S, SS.
Credits: 3; Prereq. 5 PH Classification. Coreq: PHY 497.
This course provides the pharmacy student supervised exposure and involvement in patient care through monitoring patient drug therapy; obtaining patient drug histories and interviews; professional interaction with patients, physicians, nurses, and allied health practitioners; and participation in physician rounds.

PHA 4908 C (PHY 496) Problems in Pharmacy. F, W, S, SS.
Credits: 1 to 3††; Prereq. PHY 307
Laboratory and/or literature investigations of problems in pharmacy of current interest. May be repeated for a maximum of 6 credits with approval of departmental chairman.

PHA 4600 (PHY 497) Therapeutics. F, S.
Credits: 4; Prereq: 5PH classification.
This course provides a basic introduction to the therapy of common disease states. The physiologic, economic, and social impact of disease is presented. Students will receive information on pathophysiology of common disease states, current therapeutic measures to treat disease and principles of monitoring drug therapy in patients.

PHA 4106 C (PHY 498) Injection Dosage Forms and Other Sterile Products. W.
Credits: 5; Prereq.: MCY 302 and last year professional student.
Fundamentals of preparing, processing, and administration of injection dosage forms and other sterile products. Consideration of equipment, facilities, vehicles, containers, closures, etc. employed for such products.

PHA 4769 (PHY 499) Non-Prescription Products. W, S.
Credits: 3; Prereq: PCY 457
An evaluative study of non-prescription drugs with emphasis on formulation problems, chemical structure relationships, clinical and toxicity implications, and possible interactions.

GRADUATE COURSES

PHA 5508 (PHY 522) Principles of Endocrinology. SS.
Credits: 5; Prereq: A course in Physiology.

PHA 5762 C (PHY 566) Dermatological Protectives. S.
Credits: 5; Prereq: PHY 307.

PHA 6225 (PHY 601) Hospital Pharmacy Administration.
Credits: 3

PHA 6935 (PHY 602) Selected Topics in Pharmacy.
Credits: 3

PHA 6115 (PHY 604) Equilibria, Complexations and Interactions of Drugs.
Credits: 5

PHA 6116 (PHY 605) Stability and Kinetics of Drugs.
Credits: 5

PHA 6125 (PHY 606) Pharmacokinetics and Biopharmaceutics.
Credits: 5

PHA 6936 (PHY 607) Advanced Topics in Pharmaceutical Sciences.
Credits: 1 to 2

PHA 6155 (PHY 611) Hospital Pharmacy Seminar.
Credits: 1; maximum of 3 credits.

PHA 6790 (PHY 621) Drug Information.
Credits: 4

PHA 6605 (PHY 627) Advanced Topics in Clinical Pharmacy.
Credits: 2; Maximum of 6.

PHA 6235 (PHY 631) Advanced Pharmaceutical Law.
Credits: 5

PHA 6236 (PHY 633) Health Sciences Liability Law.
Credits: 3

PHA 6237 (PHY 635) Pharmaceutical Law Seminar.
Credits: 1

PHA 6937 (PHY 637) Topics in Pharmaceutical Administration.
Credits: 3

PHA 6146 C (PHY 643) Pharmaceutical Equipment and Machinery.
Credits: 4

PHA 6147 C (PHY 645) Pharmaceutical Machinery and Product Formulation.
Credits: 4

PHA 6148 C (PHY 647) Pharmaceutical Product Formulation.
Credits: 4

PHA 6107 C (PHY 653) Parenterals.
Credits: 5

PHA 6606 (PHY 655) Clinical Pharmacy.
Credits: 4

PHA 6607 (PHY 656) Therapeutics in Clinical Pharmacy 1.
Credits: 3

PHA 6608 (PHY 657) Therapeutics in Clinical Pharmacy 2.
Credits: 4

PHA 6910 L (PHY 696) Research Methods in Pharmaceutical Sciences.
Credits: 2 to 6

PHA 6913 (PHY 697) Supervised Research.
Credits: 1 to 5††

PHA 6990 (PHY 698) Supervised Teaching.
Credits: 1 to 5††

PHA 6916 (PHY 699) Master's Research.
Credits: 1 to 17††

PHA 7980 (PHY 799) Doctoral Research.
Credits: 1 to 17††

DOCTOR OF PHARMACY PROGRAM (Pharm.D.)

PHA 5680 (PHY 567) Advanced Clinical Pharmacy Clerkship - Internal Medicine. F,W,S,SS.
Credits: 6; Prereq.: Successful completion of the didactic phase of the Advanced Clinical Pharmacy Program and recommendation of the student's supervisory committee.
The student will be assigned to Internal Medicine service for 8 weeks. Activities include participation in drug therapy monitoring, drug therapy selection, patient interviewing, and discharge planning.

PHA 5681 (PHY 568) Advanced Clinical Pharmacy Clerkship - Pediatrics. F,W,S,SS.
Credits: 6; Prereq.: Successful completion of the didactic phase of the Advanced Clinical Pharmacy Program and recommendation of the student's suprevisory committee.
The student will be assigned to Pediatric Services for 8 weeks. Activities include participation in drug therapy monitoring, drug therapy selection, patient interviewing, and discharge planning.

PHA 5682 (PHY 569) Advanced Clinical Pharmacy Clerkship - Psychiatry. F,W,S,SS.
Credits: 4; Prereq.: Successful completion of the didactic phase of the Advanced Clinical Pharmacy Program and recommendation of the student's supervisory committee.
The student will be assigned to an inpatient Psy-

††Grading is on a S-U basis only.

chiatry Service for 4 weeks. Activities include participation in drug therapy monitoring, drug therapy selection, patient interviewing, and discharge planning.

(PHY 570) Advanced Clinical Pharmacy Clerkship—Drug Information. F, W, S, SS.
Credits: 4; Prereq: Approval of student's supervisory committee.
The student will be assigned to the Drug Information and Pharmacy Resource Center (DIPRC) in the College of Pharmacy for a 4-week period. Participating functions will comprise response to inquiries received by DIPRC, writing Pharmacy and Therapeutic Committee reports, supervision of undergraduate students in DIPRC, and assist in preparation of the DIPRC newsletter.

PHA 5683 (PHY 571) Advanced Clinical Pharmacy Clerkship Chronic Care Ambulatory Medicine. F,W,S,SS.
Credits: 6; Prereq.: Successful completion of the didactic phase of the Advanced Clinical Pharmacy Program and recommendation of the student's supervisory committee.
Activities include participation in drug therapy monitoring, drug therapy selection, patient interviewing, and discharge planning in the unique settings provided.

PHA 5684 (PHY 572) Advanced Clinical Pharmacy Clerkship. Electives; F,W,S,SS.
Credits: Variable; Prereq.: Successful completion of the didactic phase of the Advanced Clinical Pharmacy Program and recommendation of the student's supervisory committee.
The student will actively participate in drug therapy monitoring, drug therapy selection, patient interviewing, and discharge planning on a clinical specialty service designated as an elective rotation. A minimum of 14 credits of elective clinical clerkship credits are required for the Advanced Clinical Pharmacy Program.

PHILOSOPHY
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77
Haring, E.S., Chairman; Allen, J.M.; Auxter, T.P.; D'Amico, R.; Elliott, H.H.; Fuller, G.; Haynes, R.P.; Lewis, A.L.; McKnight, S.A.; Simon, T.W.; Stahmer, H.M.; Zeman, J.J.; Zweig, M.B.; Emeriti: Mehlberg, H.; Morris, C.W.

The major: An undergraduate majoring in philosophy takes a minimum of 36 hours in the Department. Normally at least 12 hours will be at the 400 level. No specific courses are required. The Department strogly recommends early and frequent consultation with its faculty advisers to assure each student a coherent program meeting his or her interests and career plans. For instance, somewhat different courses are recommended respectively to pre-law students, to those with interests in history and literature and to those who may continue in philosophy.

Courses: There are no prerequisites for 200 and 300 level courses. Work in the latter is more demanding but not beyond able underclassmen. Enrollment in a 400 level course requires the permission of the instructor.

Since the descriptions below are general, and not all courses are offered every year, more precise information about offerings is posted on the bulletin board outside Room 240A ASB, the Department office. Different sections under a given course number usually do not have an identical content, so the board must be read before registration.

Honors: There are three requirements for honors. A student must (a) have and maintain a 3.5 average in philosophy, (b) elect 12 hours of 400 level course work and (c) in addition take 4 hours of PPY 495, the Honors Seminar. Application must be made to the Department at least one quarter before graduation and preferably two quarters.

PHI 2100 (PPY 200) Logic. F, W, S, SS.
Credits: 4
An introduction to ways of analyzing arguments and a study of some of the elementary tools of logic. Some portions of the course may be adapted on request, to specific fields, e.g., pre-law, business.

PHI 2010 (PPY 201) Introduction to Philosophy. F, W, S, SS.
Credits: 4
A sampling of philosophical problems and methods through the study of traditional and/ or contemporary works selected by each instructor.

PHI 2930 (PPY 209) Special Topics. F, W, S.
Credits: 2 to 4
An occasional course offered according to the current interest of the faculty. May be repeated with change of content up to a maximum of 8 credits.

PHI 2630 (PPY 231) Contemporary Moral Issues. F, W, S.
Credits: 4
An application of philosophical analysis to current moral issues.

PHI 2403 (PPY 232) Science, Myth and Values. F.
Credits: 4
An approach to the sciences contrasting them with proto-scientific and non-standard scientific modes of thought, examining the roles of science and myth in society, and assessing the relation between science and technology.

PHI 3930 (PPY 309) Special Topics, F, W, S.
Credits: 2 to 4
An occasional course offered according to the current interests of the faculty. Repeatable with change in content up to 8 credits.

PHH 3100 (PPY 311) Ancient Greek Philosophy. F, S, SS.
Credits: 5
The history of philosophy from the pre-Socratics to Plotinus, emphasizing selected primary sources.

PHH 3200 (PPY 312) Medieval Philosophy. W.
Credits: 5; No prereq.
The history of philosophy in the Scholastic centuries and into Renaissance; selected primary works.

PHH 3420 (PPY 313) Modern Philosophy 1. W, S.
Credits: 5; No prereq.
The history of philosophy from Descartes to Kant, the period strongly influenced by modern science; selected primary works.

PHH 3440 (PPY 314) Modern Philosophy 2. F, W.
Credits: 5; No prereq.
German idealism and some 19th century developments (e.g., Hegel, Marx, Nietzsche, Schopenhauer); selected primary works.

PHP 3780 (PPY 318) Meaning, Value and Action. F, SS.
Credits: 4
A study of problems arising in the development of societies and individuals, involving relationships between knowledge and human values. Readings usually in Peirce, James, Dewey and contemporary authors. This course is an elective in American Studies.

PHH 3620 (PPY 319) Conceptual Analysis 1. W.
Credits: 4
An investigation of the nature and principles of a major contemporary philosophical movement known as conceptual, or linguistic, analysis. The principles studies may be applied to some real-life problems of current interest.

PHH 3621 (PPY 320) Conceptual Analysis 2. S.
Credits: 4; No prereq.
An examination of selected works by one or more philosophers of the contemporary conceptual, or linguistic, analysis movement.

PHH 3640 (PPY 327) Early Existentialist Thought. F.
Credits: 4
An introductory study of the basic religious, literary or philosophical writings of the early existentialist thinkers.

PHH 3641 (PPY 328) Later Existentialist Thought. W.
Credits: 4; No prereq.
An introducory of the basic religious, literary or philosophical writings of the later existentialist thinkers.

PHP 3786 (PPY 329) Topics in Existentialism. S, SS.
Credits: 4; No prereq.
A study of selected topics in the religious and philosophical writings of the existentialist thinkers.

PHI 3130 (PPY 330) Symbolic Logic.F, W, S, SS.
Credits: 5
A systematic study of forms of deduction by the technique of truth-functional analysis and quantification.

PHI 3300 (PPY 341) Theory of Knowledge. F.
Credits: 4
Exploration of basic issues: e.g., the nature and cognitive role of perception; the definition of truth; what, if anything, can be certainly known.

PHI 3320 (PPY 343) Philosophy of Mind. W.
Credits: 4
An examination of theories of mind and of problems such as the nature of the self, the relation of the mental to the physical, and minds vs. machines. Readings may be taken from sources in psychology and neurophysiology as well as philosophy. May be repeated with change of content up to a maximum of 8 credits.

PHI 3650 (PPY 350) Moral Philosophy. F.
Credits: 5
Analysis and criticism of various ideals of human excellence and standards for making moral decisions.

PHI 3400 (PPY 357) Philosophy of Science. W
Credits: 4
A basic introduction to central contemporary issues, e.g., the nature of laws, the logic of discovery and the relationships between various sciences. Emphasis on the physical sciences. This course is a sequel to PPY 232 but does not presuppose it.

PHI 3420 (PPY 358) Philosophy of Social Science. S.
Credits: 4
A study of such problematic topics as the scientific status of social science, the relationships between individuals and groups and the nature of cultural relativity.

PHI 3451 (PPY 359) Philosophy and Biology. S.
Credits: 4
Intensive study of problems presented by developments in the biological sciences and medicine. Topics include reductionism vs holism, and theory-construction, as well as more general issues such as humans' relation to their environment. No prerequisite, but PPY 357 is recommended.

PHM 3500 (PPY 360) Philosophy of History. F.
Credits: 4
An inquiry into basic issues concerning history as made and history as investigated. Major theories of historical development and/or contemporary analytic controversies will be considered.

PHM 3202 (PPY 361) Philosophy and Revolution. F.
Credits: 4
A study of political theories and their relation to political transformation.

PHP 3765 (PPY 363) Marxism and Philosophy. W.
Credits: 4
An introduction to Marx's social and political philosophy through selected readings in Marx and later theorists, e.g., Lenin, Luckacs, Gramsci.

PHM 3201 (PPY 365) Critical Social Theory. S.
Credits: 4
Problems and issues in the development of contemporary social and political philosophy.

PHM 3400 (PPY 366) Philosophy of Law. W.
Credits: 4
Introduction to philosophical issues in legal theory, covering such topics as the justification and source of legal authority, nature of the judicial process, rights, justice, civil liberties, and the relation of law and morality.

PHI 3800 (PPY 370) Aesthetics. S.
Credits: 5
An approach to the fine arts via questions about the nature of art, creativity, aesthetic experience and critical judgments.

PHI 3700 (PPY 380) Philosophy of Religion. W.
Credits: 4 [Ident. with RN 380].
A philosophical examination of religious thought and experience.

PHI 3760 (PPY 382) Philosophies of Judaism.
Credits: 4 [Ident. with RN 382].
An investigation of selected figures and themes in the Jewish philosophical tradition both classical and modern. Various approaches both mystical and rational will be considered. May be repeated with change of content up to a maximum of 12 credits.

PHI 4930 (PPY 409) Advanced Undergraduate Special Topics. F, W, S, SS.
Credits: 1 to 4
An occasional course offered according to the current interests of the faculty. May be repeated with change in content up to a maximum of 12 credits.

PHH 4130 (PPY 415) Early Greek Philosophy. F.
Credits: 4
An examination of the first, i.e., pre-Socratic, stages of Western philosophy—with some reference both to cultural context and to later influence.

PHP 4000 (PPY 416) Plato. W.
Credits: 4
An intensive study of at least one major dialogue together with related writings.

PHP 4010 (PPY 417) Aristotle. S.
Credits: 4
An advanced introduction to central theories and themes.

PHH 4205 (PPY 419) Medieval Philosophy. S.
Credits: 4
The study of representative works from the period c. 400-1400.

PHH 4401 (PPY 424) Themes in Modern Philosophy. F.
Credits: 4
An examination of dominant themes and representative figures from the modern period.

PHP 4410 (PPY 425) Kant. W.
Credits: 4
A study of one or more of Kant's major philosophical works.

PHH 4500 (PPY 426) Nineteenth Century Philosophy. S.
Credits: 4
An examination of one or more figures or schools of thought from the post-Kantian period.

PHH 4703 (PPY 427) The Pragmatic Movement. W.
Credits: 5
A consideration of the extent to which the work of Peirce, James, Dewey, Mead and Lewis forms an organized philosophical position; an elective in American Studies.

PHI 4341 (PPY 428) Phenomenology 1. F.
Credits: 4
The theory and practice of phenomenology as a philosophical method.

PHP 4782 (PPY 429) Phenomenology 2. W.
Credits: 4
A study of the major writings of one or more of the phenomenologists.

PHI 4131 (PPY 430) Advanced Symbolic Logic. W.
Credits: 5; Prereq: PPY 330.
Deductive techniques. A consideration of formal systems and related topics.

PHI 4360 (PPY 441) Theory of Knowledge. F.
Credits: 4
Examination of positions and issues, usually with a contemporary emphasis.

PHI 4540 (PPY 442) Metaphysics. F.
Credits: 4
Examination of positions and issues, usually with a contemporary emphasis.

PHP 4784 (PPY 446) Analytic Philosophy. W.
Credits: 4
The study of one or more major works or themes in recent British-American philosophy.

PHI 4680 (PPY 450) Theory of Value. W.
Credits: 4
Examination of positions and issues, usually with a contemporary emphasis.

PHI 4220 (PPY 456) Philosophy and Linguistics. S.
Credits: 4
Topics include methodological approaches to language and philosophical issues in linguistics.

PHI 4404 (PPY 457) Issues in Philosophy of Science. S.
Credits: 5
Examination of contrasting positions respecting physical and/or biological and/or social science.

PHM 4501 (PPY 460) Advanced Philosophy of History. W.
Credits: 4
An investigation of controversial topics related to history; e.g., explanation, general laws, objectivity and relativism. One or more classical theories of history will be examined.

PHM 4700 (PPY 465) Philosophy of Culture. S.
Credits: 4
Contemporary philosophic perspectives on the nature and formation of culture.

PHM 4440 (PPY 466) Problems in the Philosophy of Law. S.
Credits: 4
An examination of various traditionally philosophical issues appearing in legal theory, practice and literature, emphasis on such topics as the concepts of responsibility, causation, punishment and intentionality.

PHI 4801 (PPY 470) Philosophy of Art. S.
Credits: 4
The exploration of one or more issues concerning the function of art, the role of artists and the relation of different arts to one another.

PHI 4764 (PPY 480) Philosophy of Religion. S.
Credits: 4
Examination of positions and issues, usually with a contemporary emphasis.

PHI 4912 (PPY 495) Honors Seminar. F,W,S,SS.
Credits: 2 to 4
Open to qualified philosophy majors, upon application to the Department.

PHI 4910 (PPY 496) Individual Work. F,W,S,SS.
Credits: 1 to 4; Prereq: 12 hours of work in philosophy and permission of the Department.

GRADUATE COURSES

All courses listed below may be repeated with change of content up to a maximum of 12 credits in the case of 4 credit courses and up to a maximum of 15 credits in the case of 5 credit courses.

PHI 5934 (PPY 509) Graduate Special Topics. F,W,S,SS.
Credits: 1 to 4

PHH 5135 (PPY 515) Studies in Early Greek Philosophy. F.
Credits: 4

PHP 5005 (PPY 516) Studies in Plato. W.
Credits: 4

PHP 5015 (PPY 517) Studies in Aristotle. S.
Credits: 4

PHH 5206 (PPY 519) Studies in Medieval Philosophy. S.
Credits: 4

PHH 5406 (PPY 524) Studies in Modern Philosophy. F.
Credits: 4

PHP 5415 (PPY 525) Studies in Kant. W.
Credits: 4

PHH 5505 (PPY 526) Studies in Nineteenth Century Philosophy. S.
Credits: 4

PHP 5781 (PPY 527) Studies in Pragmatism. W.
Credits: 5

PHH 5645 (PPY 528) Studies in Phenomenology 1. F.
Credits: 4

PHH 5646 (PPY 529) Studies in Phenomenology 2. W.
Credits: 4

PHI 5136 (PPY 530) Graduate Symbolic Logic. W.
Credits: 5; Prereq: PPY 330

PHI 5365 (PPY 541) Studies in Theory of Knowledge. F.
Credits: 4

PHI 5505 (PPY 542) Studies in Metaphysics. F.
Credits: 4

PHP 5785 (PPY 546) Studies in Analytic Philosophy. W.
Credits: 4

PHI 5685 (PPY 550) Studies in Theory of Value. W.
Credits: 4

(PPY 556) Studies in Philosophy and Linguistics. S.
Credits: 4

PHI 5405 (PPY 557) Studies in Issues in Philosophy of Science. S.
Credits: 5

PHM 5505 (PPY 560) Advanced Philosophy of History. W.
Credits: 4

PHM 5520 (PPY 565) Studies in Philosophy of Culture. S.
Credits: 4

PHI 5807 (PPY 570) Studies in the Philosophy of Art. S.
Credits: 4

PHI 5705 (PPY 580) Studies in the Philosophy of Religion. S.
Credits: 4

PHI 5913 (PPY 596) Individual Work. F, W, S, SS.
Credits: 1 to 5

(PPY 609) Special Topics
Credits: 1 to 5

PHH 6106 (PPY 616) Seminar in Ancient Philosophy
Credits: 5

PHH 6069 (PPY 617) Seminar on Themes in Classical/Medieval Philosophy
Credits: 5

PHH 6405 (PPY 624) Seminar in Modern Philosophy
Credits: 5

PHP 6419 (PPY 625) Seminar in Kant
Credits: 5

PHH 6509 (PPY 626) Seminar in 19th Century Philosophy
Credits: 5

PHP 6783 (PPY 628) Seminar in Phenomenology
Credits: 5

PHH 6649 (PPY 629) Seminar in 20th Century European Philosophy
Credits: 5

PHI 6105 (PPY 630) Seminar in Logic.
Credits: 5

PHI 6325 (PPY 643) Seminar in the Philosophy of Mind.
Credits: 5

PHP 6785 (PPY 646) Seminar in Analytic Philosophy
Credits: 5

PHI 6686 (PPY 650) Seminar in Problems of Value
Credits: 5

PHI 6456 (PPY 659) Psychology and Philosophy of Science
Credits: 5

PHI 6426 (PPY 665) Seminar in Epistemology and Social Theory
Credits: 5

PHI 6806 (PPY 670) Seminar in the Philosophy of Art
Credits: 5

PHI 6913 (PPY 696) Individual Work
Credits: 1 to 5

PHI 6913 (PPY 697) Supervised Research
Credits: 1 to 5†

PHI 6945 (PPY 698) Supervised Teaching
Credits: 1 to 5†

PHI 7980 (PPY 799) Doctoral Research
Credits: 1 to 15†

HEALTH EDUCATION AND SAFETY
College of Physical Education, Health, and Recreation

INSTRUCTIONAL STAFF 1976-77
Fagerberg, S.W., Chairman; Hicks, D.A.; Nuetzel, W.A.; Sandefur, W.T.; Smith, B.C.; Wallace, H.A.

HES 1006 (PHR 161) Contemporary Health Issues and Problems. F, S.
Credits: 3 to 6; determined by the number of discussion groups selected in addition to the core module.
Open to University College students. Small discussion groups are topically oriented, which include death, drugs, ecology, human sexuality and others. The weekly core class is designed to relate values to the issues found in these topics.

HES 2000 (PHR 261) Individual and Family Health. F, W, S. SS.
Credits: 5
Current health problems are examined such as drugs, sexuality, nutrition, human ecology, mental health, disease and consumer health.

HES 2001 (PHR 262) Community and Environmental Health. E, W.
Credits: 4
A survey of community health organizations and contemporary health issues such as population growth, environment, poverty, medical care and disease.

HES 2400 (PHR 266) First Aid and Medical Self-Help. F, W, S, SS.
Credits: 3
Approved practices and training in first aid and medical self-help essential for survival in emergencies and during disasters.

HES 3144 (PHR 310) Health Education and Medical Terminology. F, W, S, SS.
Credits: 3
Provides a working knowledge of the elements of professional terms related to the human body in health and disease. Descriptive definitions and applications of practical significance are included, with emphasis on the meaning of word roots and combined forms.

HES 3431 (PHR 359) School and Community Safety Education. F, W, S, SS.
Credits: 3
Accident problems in the home, school and community, and organized programs of safety education in elementary and secondary schools.

HES 3301 (PHR 361) Elementary School Health Program. F, W, S, SS.
Credits: 4; Prereq: Upper Division status in a teaching field or permission of the Chairman of the Department.
Health services, environment and instruction for the school child. Teaching areas include sex education, mental health, foods, diseases, drugs and accidents.

HES 3322 (PHR 362) Health Education in the Secondary School. F, W.
Credits: 4; Prereq: Upper Division status in a teaching field or permission of the Chairman of the Department.
Comprehensive health education emphasizing adolescent health needs and teaching in areas such as drugs, sexuality, nutrition, disease, and consumer health.

HES 3296 (PHR 380) Field Experience in Public Health. W.
Credits: 4; Prereq: PHR 262.
Orientation in the conduct of community health programs. Field experiences are arranged with a wide variety of community health agencies.

HES 4450 (PHR 451) Driver and Traffic Safety Education, F, S, SS.
Credits: 4; Prereq: Upper Division status and a state driver's license.
Analysis of traffic problems. Essential factors in efficient motor vehicle operation including laboratory experiences in simulators, dual control car and on the multiple car driving range.

HES 4451 (PHR 452) Teaching Driver and Traffic Safety. Education. W.
Credits: 4; Prereq: or coreq: PHR 451.
Organization, administration and teaching techniques of driver education for public high schools including student teaching.

HES 4540 (PHR 462) Drug Education. F, W, S.
Credits: 3; Prereq: Upper Division status in a teaching field, or permission of Chairman of the Department.
Drug education knowledge, skills and procedures emphasize team approaches in methodology for elementary and secondary school, college and community health settings.

HES 4561 (PHR 463) Sex Education in the Schools and Community. F, S.
Credits: 3; Prereq: Upper Division status in a teaching field or permission of Chairman of the Department.
Emphasis on content, issues, methodology and materials for the study of human sexuality in the elementary and secondary schools and community settings.

HES 4510 (PHR 465) Consumer Health Protection and Quackery. W.
Credits: 3
Examines resources available to the public for health care and protection, including legitimate components of the health care system, fraudulent practices and quackery.

HES 4298 (PHR 491) Community Health Education — Internship, F, W, S, SS.
Credits: 8

HES 4930 (PHR 496) Variable Topics in Health Education. F, W, S, SS.
Credits: 1 to 5; Prereq: Permission of Chairman of the Department.
Offered upon request of students to meet special interests which are not adequately provided for in other courses.

GRADUATE COURSES

HES 5935 (PHR 545) Current Topics in Health Education. F, W, S, SS.
Credits: 1 to 5; Prereq: Permission of Chairman of the Department.

HLP 6345 (PHR 605) Research Methods in Health Education, Physical Education, and Recreation. F.
Credits: 4

PET 6515 (PHR 610) Evaluation Procedures in Physical Education and Health Education. F.
Credits: 3

HLP 6925 (PHR 645) Workshop Series.
Credits: 1 to 10

HES 6266 (PHR 660) Epidemiology and Community Health. W.
Credits: 4

HES 6125 (PHR 661) Scientific Foundations of Health.
Credits: 4

HES 6328 (PHR 662) Health Education in Community and School. W, SS.
Credits: 4

HES 6166 (PHR 663) Issues and Trends in Health Education. S.
Credits: 4

HES 6905 (PHR 664) Readings in Health Education. F, W, S, SS.
Credits: 3

PET 6906 (PHR 696) Directed Independent Study.
Credits: 1 to 5; max. of 10.

PET 6912 (PHR 697) Supervised Research.
Credits: 1 to 5††

PET 6948 (PHR 698) Supervised Teaching.
Credits: 1 to 5††

PET 6971 (PHR 699) Master's Research.
Credits: 1 to 15††

† Maximum students per instructor.
††Grading is on a S-U basis only.

PROFESSIONAL PHYSICAL EDUCATION
College of Physical Education, Health, and Recreation

INSTRUCTIONAL STAFF 1976-77
Updyke, W.F., Chairman; Allen, R.E.; Boyd, C.A.; Brandman, R.; Graham, M.E.; Holyoak, O.J.; Johnson, D.; Kaufmann, D.A.; Leavitt, N.M.; Lerch, H.A.; Siders, R.A.; Tennant, L.K.; Welch, P.; Whiddon, N.S.; Zauner, C.W.

The following members of the Division of Intercollegiate Athletics instruct in the Professional Physical Education program: Dickey, D.; Fuller, D.

PEO 1011 C (PHR 100) Men's Team Sports. F, W, S.
Credits: 2
Skills and teaching techniques: volleyball, softball and flag football.

PEO 1511 C (PHR 101) Men's Soccer and Related Sports. W, S.
Credits: 2
Skills and teaching techniques: soccer, speedball and gatorball.

PEO 1511 C (PHR 111) Women's Soccer and Related Sports. F, W.
Credits: 2
Skills and teaching techniques: soccer and speedball.

PEP 1301 C (PHR 113) Women's Track and Field. F, W, S.
Credits: 2
Skills and teaching techniques.

PEO 1211 C (PHR 114) Women's Softball. F, W, S.
Credits: 2
Skills and teaching techniques.

PEQ 1121 C (PHR 126) Swimming. F, W, S, SS.
Credits: 3; Prereq: Sufficient skill to pass a basic swimming test.
Skills and teaching techniques.

PEO 2641 C (PHR 201) Football Fundamentals. F, W, S.
Credits: 3; Prereq: 2UC or higher classification.
Fundamentals of offensive and defensive football.

PEO 2621 C (PHR 202) Men's Basketball Fundamentals. F, W, S.
Credits: 3; Prereq: 2 UC or higher classification.
Fundamentals of offensive and defensive basketball.

PEP 2301 C (PHR 203) Men's Track and Field. F, W, S.
Credits: 2
Skills and coaching techniques.

PEO 2219 C (PHR 204) Baseball. F, W, S.
Credits: 2
Skills, strategy and coaching techniques.

PEP 2421 C (PHR 205) Wrestling and Conditioning Programs. W, S.
Credits: 2
Skills and teaching techniques in wrestling and conditioning activities including weight and circuit training, isometric programs, and calisthenics.

PEP 2201 C (PHR 207) Men's Gymnastics. F, W.
Credits: 3; Prereq.: Skill in basic fundamentals.
Advanced skills and teaching techniques.

PEO 2320 C (PHR 210) Women's Volleyball and Field Hockey. F, W.
Credits: 3
Skills and teaching techniques.

PEP 2201 C (PHR 217) Women's Gymnastics. W, S.
Credits: 3; Prereq.: Skill in basic fundamentals.
Advanced skills and teaching techniques.

PEO 2031 C (PHR 220) Recreational Sports. F, W, S.
Credits: 3
Skills and teaching techniques: archery, badminton, bowling, bait casting and other recreational activities.

PEO 2121 C (PHR 224) Golf. F, W, S, SS.
Credits: 2; Prereq.: Skill in basic fundamentals.
Advanced skills and teaching techniques.

PEO 2341 C (PHR 225) Tennis. F,W, S, SS.
Credits: 2; Prereq.: Skill in basic fundamentals.
Advanced skills and teaching techniques.

PEQ 2141 L (PHR 226) Synchronized Swimming. S.
Credits: 2; Prereq.: PHR 126 or permission of the Chairman of the Department.
Individual, dual, and group techniques; composition and production.

DAE 2360 (PHR 231) Folk and Social Dance. F, W, S, SS.
Credits: 3
Skills and teaching techniques.

DAE 2320 (PHR 232) Modern Dance. F, W, S.
Credits: 3
Skills and teaching techniques.

PEO 3644 C (PHR 301) Football Coaching. S.
Credits: 3; Prereq: PHR 201 or permission of the Chairman of the Department.
Systems of play, strategy, scouting techniques, organization of practice, and rules interpretation.

PEO 3621 C (PHR 312) Women's Basketball. F, W, S.
Credits: 2
Skills, rules, strategy, and teaching methods.

PEO 3003 C (PHR 313) Officiating Women's Sports. F, W.
Credits: 2; Prereq.: PHR 312.
Application of rules and techniques of officiating women's team sports with emphasis on basketball. Includes practical experience in the intramural program.

PEQ 3124 C (PHR 326) Coaching Swimming and Diving. W.
Credits: 2; Prereq.: PHR 126 or permission of the Chairman of the Department.
Methods of coaching swimming teams including the conduct of meets.

PEP 3204 C (PHR 327) Coaching Gymnastics. W.
Credits: 2; Prereq.: PHR 207 or PHR 217 or permission of the Chairman of the Department.
Methods of coaching gymnastics and the conduct of meets.

DAA 3140 (PHR 332) Dance Composition. F, W, S.
Credits: 2; Prereq.: PHR 232 or permission of the Chairman of the Department.
Modern dance composition with respect to form, design, dynamics, and rhythm.

DAN 3500 (PHR 333) Dance Production. F, W, S.
Credits: 1 to 3; Prereq.: Consent of instructor.
Individual and group composition in modern dance for production including staging and costuming. May be repeated with change of content up to a maximum of 9 credits.

DAA 3102 (PHR 334) Modern Dance III. F, S.
Credits: 3; Prereq.: PL 213; consent of instructor.
Modern dance including experiences in intermediate level technique, readings, observations and movement exploration exercises emphasizing literal expressive modes. May be repeated with change of content up to a maximum of 9 credits.

PET 3320 C (PHR 365) Applied Anatomy. F, W, S, SS.
Credits: 4; Prereq.: CBS 231 or equivalent.
Structure of the human body. Designed to meet the needs of physical educators and health educators. Open to others by permission.

PET 3350 C (PHR 366) Applied Physiology. F, W, S, SS.
Credits: 4; Prereq.: PHR 365
Normal function of the human body and adaptation to various sources of stress including exercise.

PET 3340 C (PHR 367) Kinesiology of Motor Skills. F, W, S.
Credits: 3; Prereq.: PHR 365, PS 201 or permission of the Chairman of the Department.
Fundamentals of statics, kinematics and kinetics related to sports and dance skills. Laboratory experience in biomechanical research, cinematography and film analysis.

PET 3360 C (PHR 368) Physiology of Exercise and Training. F, W, S.
Credits: 3; Prereq.: PHR 366 or permission of the Chairman of the Department.
Effects of physical exercise and athletic training on human function and structure.

PET 3011 (PHR 371) Foundations of Physical Education. F, W, S, SS.
Credits: 3
Background, nature, purpose and contributions of contemporary physical education.

PET 3461 C (PHR 373) Physical Education in the Elementary School. F, W, S, SS.
Credits: 3; Prereq.: Upper Division standing or permission of the Chairman of the Department.
Organization and conduct of physical education activities for the elementary school. PHR 37x is designed only for students majoring in elementary education who have access to children in a group or school situation.

PET 3640 C (PHR 375) Adapted Physical Education. F, W, S, SS.
Credits: 2: Prereq.: PHR 365.
The program of adapted physical education; physiology of exercise and kinesiology as applied to pupils with physical limitations.

PET 3430 (PHR 376) Physical Education Program in the Elementary School. F.
Credits: 4; Prereq.: Upper Division status or permission of the Chairman of the Department.
The beginning course for students planning a concentration in elementary school physical education. Includes philosophy, overview of program, facilities and equipment needed, and evaluation procedures. Not open to students who have completed PHR 373.

PEP 3203 C (PHR 377) Movement Education and Gymnastics for the Elementary School Child. W.
Credits: 4; Prereq.: Upper Division status or permission of the Chairman of the Department.
An in-depth study of the nature and methodology of movement education, stunts, tumbling, and developmental activities for elementary school children.

PEO 3041 C (PHR 378) Games and Sports for Elementary School Children. S.
Credits: 4; Prereq.: Upper Division status or permission of the Chairman of the Department.
The teaching of sports and games in the elementary school physical education program.

DAE 3370 (PHR 379) Dance in Elementary Education. F.
Credits: 4; Prereq.: Upper Division status or permission of the Chairman of the Department.
The teaching of rhythmic skills and dance movements for elementary school children.

DAN 4110 (PHR 430) Seminar in Dance History and Philosophy. F.
Credits: 4
Survey of the historical development of the art

dance with reference to social contexts, periods and cultures involved; seminars, readings, and observations of various cultural events and audio-visual materials.

DAA 4103 (PHR 434) Modern Dance IV. W.
Credits: 3; Prereq: PHR 334; consent of instructor.
Modern dance including experiences in advanced level technique, readings, observations, informal performance and movement exploration exercises emphasizing non-representational expressive modes. May be repeated with change of content up to a maximum of 9 credits.

PET 4622 (PHR 468) Prevention and Care of Athletic Injuries. W.
Credits: 4; Prereq.: PHR 365 or permission of the Chairman of the Department.
Prevention of athletic injuries, including conditioning programs, safe facilities, protective equipment, and proper supervision of practice and contests. Recognition, referral and followup of injuries in athletics.

PET 4410 (PHR 471) Administration of Physical Education and Athletics. F, W, S, SS.
Credits: 5
Fundamental principles of developing, administering and supervising public school programs of physical education including intramurals and interscholastic athletics.

PET 4442 C (PHR 473) Physical Education in the Secondary School. F, W, S.
Credits: 5; Prereq.: EDE 400-ED5 400. Limited to physical education majors in the term prior to student teaching.
Materials, content, and techniques in teaching physical education in the secondary school. Includes field experience in local schools.

PET 4941 C (PHR 474) Field Experience in Elementary School Physical Education. F, W, S.
Credits: 3; Prerq.: PHR 373 or equivalent.
Supervised experience in a local elementary school.

PET 4510 (PHR 484) Measurement and Evaluation. F, W, S, SS.
Credits: 3
Techniques in objective measurement and evaluation of physical fitness, motor ability, nutritional status, and other activity-related probems.

PET 4905 (PHR 496) Variable Topics in Physical Education, F, W, S, SS.
Credits: 1 to 5; Prereq: Permission of Chairman of the Department.
Offered upon request of students to meet special interests which are not adequately provided for in other courses.

GRADUATE COURSES

PET 5930 (PHR 545) Current Topics in Physical Education. F, W, S, SS.
Credits: 1 to 5; Prerq: Permission of the Chairman of the Department.

PET 6015 (PHR 601) Interpretations of Physical Education.
Credits: 3

PET 6235 C (PHR 603) Nature and Bases of Motor Performance.
Credits: 5

HLP 6345 (PHR 605) Research Methods in Physical Education, Health Education, Recreation.
Credits: 4

PET 6932 (PHR 607) Seminar in Physical Education.
Credits: 2. May be repeated with change of content.

††Grading is on a S-U basis only.

PET 6515 C (PHR 610) Evaluation Procedures in Physical Education and Health Education.
Credits: 3

PET 6365 C (PHR 612) Physiological Bases of Physical Education.
Credits: 5

PET 6368 L (PHR 613) Practicum in Exercise Physiology.
Credits: 3

PET 6425 (PHR 616) The Physical Education Curriculum.
Credits: 5

PET 6445 (PHR 618) The College Physical Education Program.
Credits: 5

PET 6416 (PHR 620) Problems in the Administration of Athletics.
Credits: 5

PET 6145 (PHR 633) Problems in Physical Education.
Credits: 5

PET 6925 (PHR 645) Workshop Series.
Credits: 1 to 10

PET 6346 C (PHR 665) Biomechanics in Human Motion.
Credits: 5

PET 6906 (PHR 696) Directed Independent Study.
Credits: 1 to 5. May be repeated with change of content to a maximum of 10 credits.

PET 6912 L (PHR 697) Supervised Research.
Credits: 1 to 5††

PET 6948 L (PHR 698) Supervised Teaching.
Credits: 1 to 5††

PET 6971 L (PHR 699) Master's Research.
Credits: 1 to 15††

RECREATION
College of Physical Education, Health, and Recreation

INSTRUCTIONAL STAFF 1976-77
Varnes, P.R., Chairman; Cato, B.M.; Eckdahl, J.; Gilkinson, B.; Hall, L.T.; Hester, J.D.; Leilich, R.E.; McCall, G.E.; Regna, J.L.

LEI 2000 (PHR 244) Introduction to Recreation and Leisure. F, W, S, SS.
Credits: 3
Provides for the development of an understanding of the various roles that recreation has in our contemporary society and provides students an opportunity to examine recreation as a potential profession.

LEI 2021 (PHR 245) Leadership in Recreation. F, W, S, SS.
Credits: 4
Knowledge of the place, scope and importance of recreation in community settings. Basic leadership skill development through practical application.

LEI 3260 (PHR 340) Outdoor Recreation Trends and Issues. F, W, S, SS.
Credits: 3
Examines trends and issues of outdoor recreation which will include such topics as history, use of the outdoors, recreation and the environment, and outdoor recreation agencies.

LEI 3330 (PHR 342) Camp Counseling. F, W, S, SS.
Credits: 4
The training of counselors for organized camping, including crafts, nature, cooking, and informal activities.

LEI 3320 (PHR 344) Social Recreation, F, W, S, SS.
Credits: 3
Planning and conducting social recreation programs.

LEI 3540 (PHR 345) Management of Recreation Centers. F, W, S, SS.
Credits: 4
Introduction to leisure time activities including facilities, personnel and programs.

LEI 3921 (PHR 346) Field Experience in Recreation. F, W, S.
Credits: 4; Prereq: or coreq: PHR 344 and PHR 345.
Eight hours of weekly laboratory work to arrange. Supervised experience in the conduct of a variety of recreation activities.

LEI 3400 (PHR 347) Recreation Programs. W.
Credits: 4; Prereq: Upper Division status, PHR 245
Planning programs and activities for various recreation settings, especially community recreation.

(PHR 444) Leisure, Recreation and the Older Adult.
Credits: 4
An indepth study of the responsibilities and opportunities in providing recreation services for the older adult.

LEI 4700 (PHR 445) Recreation for Special Community Groups. F, W, S, SS.
Credits: 5; Prereq: PHR 245 and PHR 347.
Principles and practices in planning and implementing programs in special community-group settings.

LEI 4500 (PHR 446) Administration of Recreation. F, S.
Credits: 5
Limited to recreation majors, or those with permission of the instructor. Organizing and administering community and other recreation services, emphasizing problem solving.

LEI 4780 (PHR 447) Leisure Services for the Socially Deviant. F, S.
Credits: 5
Introduces the student to the various leisure services delivery system that may be utilized as rehabilitative tools with the socially deviant population.

(PHR 448) Program Planning and Evaluation in Therapeutic Recreation. W, S.
Credits: 4 Prereq: PHR 445
Advanced study in planning programs and evaluation in Therapeutic Recreation.

LEI 4940 (PHR 449) Internship in Recreation. F, W, S, SS.
Credits: 16††; Prereq: Permission of the instructor.
Practical field experience in selected off-campus recreation programs.

PET 4905 (PHR 496) Variable Topics in Recreation. F, W, S, SS.
Credits: 1 to 5; Prereq: Permission of Chairman of the Department.
Offered upon request of students to meet special interests which are not adequately provided for in other courses.

PHYSICAL EDUCATION COURSES
Department of the General Program

INSTRUCTIONAL STAFF 1976-77
Moore, C.A., *Chairman;* Alexander, R.H., Chafin, M.B.; Crone, E.G.; Harlan, W.E.; Lee, P.A.; McCachren, J.R.; Mooney, E.G.; Moore, A.C.; Phillips, S.L.; Potter, W.M.; Pye, R.L.; Ryan, M.P.; Scott, T.M.; Shields, D.A.; Stephens, F.W.; Waglow, I.F.; Welsch, W.R.; Williams, C.S.

PEM 1100 (PL 101) Basic Concepts of Physical Education. F, W, S.
Credits: 1

PEM 1012 (PL 110) Adapted Program. F, W, S.
Credits: 1

PEL 1621 (PL 111) Basketball. W.
Credits: 1

PEM 1102 (PL 112) Conditioning, F, W, S.
Credits: 1

DAA 1100 (PL 113) Moden Dance. F, W, S.
Credits: 1

PEL 1646 (PL 115) Flag Football. W.
Credits: 1

PEM 1201 (PL 117) Gymnastics. F, W, S.
Credits: 1

PEL 1571 (PL 118) Lacrosse. F, W, S.
Credits: 1

PEL 1511 (PL 119) Soccer. F, W, S.
Credits: 1

PEL 1541 (PL 120) Speedball. W.
Credits: 1

PEM 1301 (PL 122) Track and Field. F, W, S.
Credits: 1

PEM 1131 (PL 123) Weight Training. F. W, S.
Credits: 1

PEM 1421 (PL 124) Wrestling (M) W, S.
Credits: 1

PEL 1441 (PL 125) Racquetball. F, W, S.
Credits: 1

PEM 1431 (PL 126) Judo. F, W, S.
Credits: 1

PEM 1441 (PL 127) Karate. F, W, S.
Credits: 1

PEN 1171 (PL 128) Aquacises. F, S.
Credits: 1

DAA 1500 (PL 129) Jazz Dance. F, W, S.
Credits: 1

PEM 1145 (PL 130) Jogging. F, W, S.
Credits: 1

PEM 1461 (PL 131) Fencing. F, W, S.
Credits: 1

PEL 1521 (PL 132) Team Handball. F, S, S.
Credits: 1

PEM 1351 (PL 133) Cycling. F, W, S.
Credits: 1

PEL 1141 (PL 151) Archery. F, W, S.
Credits: 1

PEL 1346 (PL 152) Badminton. S.
Credits: 1

PEL 1111 (PL 153) Bowling. F, W, S.
Credits: 1

DAA 1340 (PL 155) Folk Dance. W, S.
Credits: 1

DAA 1300 (PL 156) Social Dance. W, S.
Credits: 1

DAA 1310 (PL 157) Square Dance, W. S.
Credits: 1

PEL 1121 (PL 158) Golf. F, W, S.
Credits: 1

PEL 1421 (PL 159) Handball. F, W, S.
Credits: 1

PEL 1211 (PL 160) Softball. S.
Credits: 1

PEN 1121 (PL 161) Swimming. F, W, S.
Credits: 1

PEN 1251 (PL 162) Canoeing. F, S.
Credits: 1

PEN 1135 (PL 163) Skin & Scuba Diving. F, W, S.
Credits: 3; Prereq.: PL 263 or Instructors approval.

PEL 1166 (PL 164) Riflery. F, W, S.
Credits: 1

PEL 1341 (PL 165) Tennis. F, W, S.
Credits: 1

PEL 1321 (PL 166) Volleyball. F, W, S.
Credits: 1

PEN 1151 (PL 167) Springboard Diving. S.
Credits: 1

PEL 1041 (PL 168) Recreational Games. F, W, S.
Credits: 1

DAA 2101 (PL 213) Advanced Modern Dance. F, W, S.
Credits: 1

PEM 2202 (PL 217) Advanced gymnastics. F, W, S.
Credits: 1

PEL 2512 (PL 219) Advanced Soccer. W.
Credits: 1

PEM 2462 (PL 231) Advanced Fencing. W, S.
Credits: 2

PEM 2405 (PL 232) Self Defense for Women
Credits: 2

PEL 2142 (PL 251) Advanced Archery. F, W, S.
Credits: 1

PEL 2347 (PL 252) Advanced Badminton. W, S.
Credits: 1

PEL 2112 (PL 253) Advanced Bowling. S.
Credits: 1

PEN 2231 (PL 254) Sailing. F, S.
Credits: 2

PEL 2122 (PL 258) Advanced Golf. F, W, S.
Credits: 1

PEL 2422 (PL 259) Advanced Handball. W, S.
Credits: 1

PEN 2122 (PL 261) Advanced Swimming. F, W, S.
Credits: 1

PEN 2141 (PL 262) Synchronized Swimming. F, W, S.
Credits: 1

PEN 2113 (PL 263) Advanced Life Saving. F, W, S.
Credits: 1

PEQ 2115 (PL 264) Water Safety Instruction. F, W, S.
Credits: 2; Prereq: PI 263

PEL 2342 (PL 265) Advanced Tennis. F, W, S.
Credits: 1

PEQ 2126 (PL 270) Instructors of Swimming for the Handicapped
Credits: 2

PET 3254 (PL 300) Women in Sports. F, W, S.
Credits: 3

PET 3251 (PL 303) Sport and Society. W, S.
Credits: 3

PEQ 3109 (PL 305) Aquatic Management. W, S.
Credits: 4

PHYSICAL THERAPY
College of Health Related Professions

INSTRUCTIONAL STAFF 1976-77
Rutan, F.M., Chairman; Canfield, K.I.; Cieplinski, L.K.; Finley, M.C.; Fisher, N.P.; Holmes, T.M.; Morgenstern, L.S.; Wroe, M.C.

See also courses under Health Related Professions (HRP)

PHT 3001 (PHT 301) Introduction to Physical Therapy and Community Health Concepts. F.
Credits: 3; Coreq.: PHT 332 or permission of instructor.
Current trends in physical therapy and health care in relation to medical practice. Introduction to patient care.

PHT 3213 C (PHT 311) Clinical Science 1. W.
Credits: 5; Prereq.: PHT 301, PHT 332.
Basic principles designed to develop students' skill in the analyses of physical disability and the application of exercises, gait; functional activity training and massage as treatment procedures.

PHT 3214 C (PHT 312) Clinical Science 2. S.
Credits: 5; Prereq.: PHT 311.
Basic principles designed to develop students' skill in the evaluation and measurement of muscle function and strength and in the measurement of joint motion. An overview of normal growth and development.

PHT 3100 C (PHT 332) Human Anatomy. F.
Credits: 3; Coreq.: PHT 301 or permission of the instructor.
Open to physical therapy students and others with permission of instructor. The macroscopic structures of the human body with emphasis on the neuromuscular and musculoskeletal systems.

PHT 3215 C (PHT 351) Physical Modalities. S.
Credits: 5; Prereq.: HPR 331, PHT 332.
Principles and techniques of evaluation and treatment of pathological conditions with low frequency electricity and treatment with thermotherapy procedures.

PHT 3500 (PHT 361) Community Health-Needs, Services, Structure and Implications. W, SS.
Credits: 3; Prereq.: PHT 312 or permission of the instructor.
Roles and functions of physical therapists in community health. History and current trends in provision of health care in the U.S. Levels and systems for the delivery of sevices. Employment practices in physical therapy.

PHT 3803 (PHT 391) Physical Therapy in Community facilities. F, W, S, SS.
Credits: 1††; Prereq.: PHT 301.
Orientation to local physical therapy clinics and other clinical facilities involved with patient care. Emphasis on how physical therapy serves this community.

PHT 3812 (PHT 392) Junior Clinical Practicum. F, W, S, SS.
Credits: 2††; Prereq.: PHT 391
Supervised practical experience designed to parallel classroom skills learned during the junior year. May be taken as an elective.

PHT 3813 (PHT 393) Junior Clinical Practicum. F, W, S, SS.
Credits: 2††; Prereq.: PHT 391
Supervised practical experience designed to parallel classroom skills learned during the junior year.

PHT 4234 (PHT 411) Therapeutic Procedures 1. F, S.
Credits: 4; Prereq.: HRP 417.
Principles and utilization of equipment and exercise related to the physically disabled.

PHT 4232 C (PHT 412) Therapeutic Procedures 2. W, SS.
Credits: 4; Prereq.: PHT 411.
Continuation of PHT 411.

††Grading is on a S-U basis only.

PHT 4111 L (PHT 433) Anatomy Dissection. F.
Credits: 4; Prereq.: PHT 332.
Open to physical therapy students and others with permission of instructor. Intensive laboratory study of human anatomy with emphasis on the neuromuscular and musculoskeletal systems.

PHT 4331 C (PHT 435) Survey of Surgical Procedures. W.
Credits: 4; Prereq.: HRP 434 an PHT 492.
Medical lectures on etiology, pathology, symptomology and treatment of medical and surgical conditions.

PHT 4245 (PHT 444) Survey of Patient Problems. SS.
Credits: 4; Prereq.: PHT 499.
Discussion course designed to improve skills in patient evaluation and planning, processes of scientific inquiry, and psychological practices with the physically disabled.

PHT 4930 (PHT 461) Seminar. SS.
Credits: 4; Prereq.: PHT 361. Coreq.: PHT 444.
Effective Communication and Management procedures; program planning and problem solving in patient services.

PHT 4822 (PHT 491) Clinical Practicum. F, W, S, SS.
Credits: 3††; Prereq.: PHT 312. Coreq.: PHT 411.
An internship-type experience providing students with the opportunity for supervised work in clinical settings.

PHT 4823 (PHT 492) Clinical Practicum. F, W, S, SS.
Credits: 3††; Prereq.: PHT 411. Coreq.: PHT 412
Continuation of PHT 491.

PHT 4824 (PHT 499) Internship. F, W, S, SS.
Credits: 12††● Prereq.: Approval of Department Chairman.
Supervised field work experience in facilities approved by the Department. No other courses may be taken during the internship quarter.

PHYSICS
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77
Dunnam, F.E., Chairman; Adams, E.D.; Bailey, T.L.; Ballard, S.S.; Blue, R.A.; Brookeman, J.R.; Broyles, A.A.; Buchler, J.R.; Carr, T.D.; Chameides, W.L.; Conklin, J.B., Jr.,; Connolly, J.W.D.; Duffy, J.W.; Flowers, J.W.; Garrett, R.E.; Gibson, A.V.; Green, A.E.S.; Hanson, H.P.; Hooper, C.F., Jr.; Ihas, G.G.; Isler, R.C.; Lowdin, P.O.; Lynch, M.A.; Micha, D.A.; Nevis, A.H.; Ohrn, N.Y.; Omer, G. C., Jr.; Parkinson, M.T.; Pepinsky, R.; Peterson, L.R.; Rosenshein, J.S.; Sabin, J.R.; Scott, T.A.; Smith, A.G.; Thomas, B.S.; Trickey, S.B.; Uman, M.A.; Van Rinsvelt, H.A.; Ward, G.D.; Weller, H.R.

Students planning on an undergraduate major in physics should consult the departmental major adviser, Dr. B.S. Thomas, Room 266 Williamson Hall. In preparation for this major program, the student should take the following courses in his Freshman and Sophomore years: MS 301-302-303-304-305, PS 215-216-217, 225-226-227, PS 235-236-237, CY 211-212-213, GN or FH or RSN 133-134-135. The upper division program will be selected under the guidance of the major adviser. For additional information, see College of Arts and Sciences entrance requirements.

Any physics major with an overall 3.0 or higher grade point average in a minimum of 24 credit hours of physics courses attempted may apply for the Departmental Honors Program in physics. Application should be made to the departmental advisers. Upon acceptance to the program the student will be assigned a supervisory committee composed of two faculty members which will recommend a program for the student which shall include the following minimum requirements: 2 physics courses selected from the 500 level (or six equivalent credits in PS 496 excluding laboratories); 2 quarters (no less than a total of 4 credit hours) or PS 491 research; and 2 quarters of PS 492 preferably taken concurrently with PS 496 or PS 491. Award of Departmental Honors in Physics will be made upon: completion of the approved curriculum, including the honors course requirements, with an overall 3.0 or higher grade point average in all physics courses attempted; and recommendation for honors by the student's supervisory committee, based in part on a final written report and oral presentation of the student's research in PS 496 or PS 491.

General Physics Courses: There are four course sequences in general physics: PS 201-202; PS 211-212-213 with laboratory PS 221-222-223; PS 215-216-217 with laboratory PS 225-226-227 and PS 285-286-287. PS 201-202 is a course sequence emphasizing the practical applications of basic physics to a wide range of professions including architecture, agricultural sciences, building construction forest resources, and health related services. PS 211-212-213 and the corresponding laboratory sequence PS 221-222-223 are intended primarily for students not majoring in a physical science or an engineering field. These courses are usually taken by preprofessional students (pre-medical, pre-dental, etc.), especially those who have either not taken calculus or who do not plan to take the complete calculus sequence.
PS 215-216-217 and the corresponding laboratory sequence PS 225-226-227 are intended for all physical science and engineering majors and are open to all students who are taking or will take the calculus sequence through MS 303.
PS 235, 236 and 237 are one-credit discussion sections in PS 215-16-17, respectively. These courses are required of all majors and are strongly recommended for all other students. PS 285, 286, and 287 constitute the honors sequence in general physics. Each course consists of lectures augmented with a combined discussion and laboratory session. Enrollment is by invitation or special permission; interested students are invited to contact one of the departmental advisers for more details.

PHY 1001 C (PS 120) Elements of Physics. W, S.
Credits: 6; Prereq.: One year of high school algebra or equivalent.
A terminal course presenting selected topics from all branches of physics. Primarily for non-science majors. The presentation of the course will include lectures, demonstrations, recitation problem-solving sessions, and laboratory.

PHY 2032 C (PS 200) Physics for Skeptics. F, W, S, SS.
Credits: 4; Prereq.: High school algebra or equivalent.
Directed to those who think that physics is a fearsome thing. Will utilize a minimum of mathematics to discuss basic ideas of modern physics, interpretation versus observation, aesthetic choice in physical theories, theories as games, and the implications of the modern view of nature. Includes demonstrations, experiments, and class discussion. Not available for undergraduate major credit.

PHY 2004 C (PS 201) Applied Physics 1. F, W, S, SS.
Credits: 5; Prereq: One term of college mathematics.
A course emphasizing the practical applications of basic physics to a wide range of professions including architecture, agricultural sciences, building construction, forest resources, and health related services. Mostly mechanics — motion, forces, energy, momentum, and wave motion.

PHY 2005 C (PS 202) Applied Physics. 2. F, W, S, SS.
Credits: 5; Prereq: PS 201.
Continuation of the sequence. Fluids, thermodynamics, electric and magnetic fields. Meters. Alternating current. Optics and modern physics.

PHY 2050 (PS 211) General Physics 1. F, W, S, SS.
Credits: 4; Prereq: MS 102 or equivalent; Coreq: PS 221.
Structure and properties of matter; kinematics, dynamics, and statics; momentum and energy; rotation, elasticity; vibration and wave motion; fluids.

PHY 2051 (PS 212) General Physics 2. F, W, S, SS.
Credits: 4; Prereq.: PS 211; Coreq.: FS 222.
Electric charge, fields, and circuits; electromagnetism; applied electricity; temperature, expansion, heat transfer; thermal behavior of gases.

PHY 2052 (PS 213) General Physics 3. F, W, S, SS.
Credits: 4; Prereq: PS 211: Coreq: PS 223.
Wave motion, sound, geometrical optics, wave optics, applied optics; electrons and photons; atoms and nuclei.

PHY 2040 (PS 215) General Physics with Calculus 1. F, W, S, SS.
Credits: 3; Prereq.: MS 301; Coreq.: MS 302 and PS 225.
Mechanics: statics and kinematics; work, momentum, energy, and power; conservation laws, rotational and harmonic motion.

PHY 2041 (PS 216) General Physics with Calculus 2. F, W, S, SS.
Credits: 3; Prereq: PS 215; Coreq: MS 303, and PS 226.
Electrostatics: fields and potentials, electromotive force, circuits, electromagnetism; capacitance and inductance; magnetic properties of matter; electromagnetic radiation.

PHY 2042 (PS 217) General Physics with Calculus 3. F, W, S, SS.
Credits: 3; Prereq.: PS 215; Coreq.: MS 303 and PS 227.
Elasticity, wave motion, and sound; heat, thermodynamics, and kinetic theory of gases; geometrical, physical, and quantum optics.

PHY 2020 L (PS 220) Laboratory for Physics 200. F, W, S, SS.
Credits: 1; Prereq.: high school algebra.
The format is in keeping with the spirit and philosophy of PS 200. Experiments are open ended, do not follow a "cookbook" procedure, can be performed by anyone with some imagination and initiative, and include modern instruments such as a gas laser. Not available for undergraduate major credit.

PHY 2050 L (PS 221) Laboratory for Physics 211. F, W, S, SS.
Credits: 1; Coreq.: PS 211.

PHY 2051 L (PS 222) Laboratory for Physics 212. F, W, S, SS.
Credits: 1; Coreq.: PS 212.

PHY 2052 L (PS 223) Laboratory for Physics 213. F, W, S, SS.
Credits: 1; Coreq.: PS 213.

PHY 2040 L (PS 225) Laboratory for Physics 215. F. W, S, SS.
Credits: 1; Coreq.: PS 215.

PHY 2041 L (PS 226) Laboratory for Physics 216. F, W, S, SS.
Credits: 1; Coreq.: PS 216.

††Grading is on a S-U basis only.

PHY 2042 L (PS 227) Laboratory for Physics 217. F, W, S, SS.
Credits: 1; Coreq.: PS 217.

PHS 2102 (PS 235) Problem Solutions in General Physics 1.
Credits: 1; Coreq.: PS 215.
Resource/discussion section for PS 215, emphasizing problem solving and mathematical techniques.

PHS 2103 (PS 236) Problem Solutions in General Physics (Calculus) 2. F, W, S, SS.
Credits: 1; Coreq.: PS 216.
Resource/discussion section for PS 216.

PHS 2104 (PS 237) Problem Solutions in General Physics (Calculus) 3. F, W, S, SS.
Credits: 1; Coreq.: PS 217
Resource/discussion section for PS 217.

PHS 2802 (PS 283) Introduction to Acoustics. W.
Credits: 2; Prereq.: MS 102 or equivalent.
The elements of wave motion, sound, and related phenomena for the non-science major. Vibrations, simple harmonic motion, standing waves, and resonance, applied to familiar examples. Non-periodic waves and noise.

PHY 2063 C (PS 285) General Physics Honors. F.
Credits: 5; Coreq.: MS 302
First course of the sequence MS 285-286-287. Topics are similar to those of PS 215-216-217, but in considerably more depth, with more individual instruction in the accompanying laboratory and discussion section. Enrollment is by invitation or special permission only.

PHY 2064 C (PS 286) General Physics Honors. W.
Credits: 5; Prereq.: PS 285 or special permission of the Physics Department; Coreq: MS 303
Second quarter of the PS 285-286 sequence.

PHY 2065 C (PS 287) General Physics Honors. S.
Credits: 5; Prereq.: PS 286; Coreq: MS 304.
Third quarter of the sequence PS 285-286-287.

PHY 3223 (PS 300) Mechanics 1. F.
Credits: 3; Prereq.: One year of college physics and calculus.
First part of the sequence PS 300-400-500. Introduction to solutions of differential equations; particle motion in one, two, and three dimensions; central forces; development of vector algebra calculus methods.

PHY 3323 (PS 310) Electricity and Magnetism 1. W.
Credits: 3; Prereq.: One year of college physics and calculus.
The first part of the sequence PS 310, 410, and 510. Electric and magnetic fields, Maxwell's equations. Vector methods are introduced and employed.

PHY 3423 (PS 330) Optics 1. F.
Credits: 3; Prereq.: One year of college physics and calculus.
The first part of the sequence PS 330 and 430. Lenses, optical instruments, interference, diffraction, dispersion, and polarization.

PHY 3018 (PS 333) The Physics of Photography. F
Credits: 3
A popular-level survey of the physical basis of photography. The nature of light and color, the way lenses work; how films respond to light; Polaroid process; color photography. Illustrated by numerous applications. The use of mathematics is restricted to simple algebra.

PHY 3123 (PS 340) Modern Physics 1. F, S, SS.
Credits: 3; Prereq: One year of college physics and calculus.
The first part of the sequence PS 340 and 440. Includes atomic physics, relativity, theory of the solid state, basic concepts of quantum mechanics.

PHY 3036 (PS 391) Frontiers of Science, F, W, S.
Credits: 1
Lectures by outstanding visiting scientists on topics of current interest. Discussions will include the social and environmental aspects of modern science and technology. Open to any student with an interest in the relevance of scientific thought and the scientific method to present-day life.

PHY 3903 (PS 396) Individual Work. F, W, S, SS.
Credits: 3 to 6; Prereq.: consent of instructor.
A guided course of study or special projects for selected undergraduates, primarily those with fewer than 15 credits of course work in physics or allied fields, May be repeated with change of content, up to a total of 12 credits.

PHY 4224 (PS 400) Mechanics 2. W.
Credits: 3; Prereq.: PS 300 elementary differential equations, and vector algebra.
Special theory of relativity; methods in the calculus of variations; Lagrangian and Hamiltonian dynamics.

PHY 4324 (PS 410) Electricity and Magnetism 2. S.
Credits: 3; Prereq.: PS 310, elementary differential equations and vector algebra.
The second part of the sequence PS 310, 410, and 510.

PHY 4712 L (PS 415) Electrical Measurements. F, W, S.
Credits: 2; Prereq.: PS 310 or equivalent. Coreq.: PS 410.
Laboratory experiments in electricity and magnetism.

PHY 4523 (PS 420) Fundamentals of Statistical Physics 1. S.
Credits: 3; Prereq.: PS 340.
The first part of the sequence PS 420 and 520. Introduction to thermodynamics, statistical mechanics, and kinetic theory.

PHY 4424 (PS 430) Optics 2. W.
Credits: 3; Prereq.: PS 330, elementary differential equations and vector algebra.
The second part of the sequence PS 330 and 430.

PHY 4454 L (PS 435) Optics Laboratory. F, W, S.
Credits: 2; Prereq.: PS 330, Coreq.: PS 430.
Selected experiments in the refraction, dispersion, diffraction, and polarization of light.

PHY 4124 (PS 440) Modern Physics 2. F, W.
Credits: 3; Prereq.: PS 340, MS 305.
The second part of the sequence PS 340 and

PHY 4822 L (PS 445) Atomic and Modern Physics Laboratory. F, W, S.
Credits: 2; Prereq.: PS 340 or equivalent.
Selected experiments dealing with properties of electrons and atoms, the solid state, X-rays, cosmic rays, gaseous discharges, photoelectric and thermionic emission, and atomic radiations.

PHS 4303 (PS 460) Nuclear Physics. S.
Credits: 3; Prereq.: PS 440.
Elementary treatmet of nuclear phenomena, including nuclear properties, stability and radioactive decay, scattering and nuclear reactions, interactions of nuclear radiations with matter, and nuclear forces.

PHS 4330 L (PS 465) Laboratory Techniques in Nuclear Physics 1. W.
Credits: 2; Coreq.: PS 460, or consent of instructor.
The first part of the sequence PS 465 and 566. Detection and energy measurement of particle and photon radiations. Deterination of nuclear properties. Coincidence measurements, pulse-height analysis, and nuclear instrumentation. Nuclear reactions.

PHS 4805 (PS 485) The Physical Basis of Music. S.
Credits: 4; Prereq.: CMS 171, MS 102, or consent of instructor.
Vibration and wave behavior as applied to musical instruments, with studies of the generation and reception of sound waves, musical intervals and scales, musical acoustics and musical electronics.

PHY 4910 L (PS 491) Individual Laboratory Work. F, W, S, SS.
Credits: 1; Prereq.: 18 credits of physics.
Qualified undergraduate students may pursue a special project in the laboratory. May be repeated, with change in content, up to a total of 4 credits.

PHY 4930 (PS 492) Research Seminar. F, S.
Credits: 1; Prereq.: 18 credits of physics.
496 or PS 491 may be taken conjointly. Qualified undergraduates will take part in weekly seminars on research topics in physics, conducted by research faculty and the students themselves.

PHY 4905 (PS 496) Individual Work. F, W, S, SS.
Credits: 3 to 5; Prereq.: 18 credits of physics.
Qualified undergraduate students may study selected topics in physics. May be repeated with change of content up to a total of 15 credits.

GRADUATE COURSES

PHY 5225 (PS 500) Intermediate Dynamics. S.
Credits: 3

PHY 5325 (PS 510) Electric and Magnetic Fields. F, SS.
Credits: 3

PHY 5722 C (PS 515) Electronics 1. W.
Credits: 3

PHY 5723 C (PS 516) Electronics 2. S.
Credits: 3

PHY 5524 (PS 520) Fundamentals of Statistical Physics 2. F.
Credits: 3

PHY 5445 (PS 530) Classical and Modern Optics. S.
Credits: 4

PHY 5624 (PS 541) Modern Physics 3. W, S.
Credits: 3

PHS 5204 (PS 542) Optical Spectra.
Credits: 3

PHS 5404 (PS 550) Introductory Solid State Physics.
Credits: 3

PHS 5304 (PS 560) Nuclear Phyics.
Credits: 3

PHS 5331 L (PS 566) Laboratory Techniques in Nuclear Physics 2.
Credits: 2

PHS 5354 (PS 570) Introduction to Particle Physics.
Credits: 3

PHY 5906 (PS 596) Individual Work. F, W, S, SS.
Credits: 3 to 5

PHY 6246 (PS 601) Classical Mechanics.
Credits: 3

PHS 6606 (PS 603) Special Relativity.
Credits: 3

PHS 6616 (PS 604) General Relativity.
Credits: 3

PHY 6346 (PS 611) Electromagnetic Theory 1.
Credits: 3

PHY 6347 (PS 612) Electromagnetic Theory 2.
Credits: 3

PHY 6078 (PS 615) Electrical Activity of the Nervous System.
Credits: 3; (Ident. with EE 615).

PLANT SCIENCES

PHY 6077 (PS 616) Biophysical Models of Nerve Impulse Propagation.
Credits: 3; (Ident. with EE 616).

PHY 6536 (PS 621) Statistical Physics 1.
Credits: 3

PHY 6537 (PS 622) Statistical Physics 2.
Credits: 3

PHS 6247 (PS 629) Chemical Physics.
Credits: 3

AST 6165 (PS 633) Radiopropagation and Ionospheric Physics 1.
Credits: 3

AST 6166 (PS 634) Radiopropagation and Ionospheric Physics 2.
Credits: 3

AST 6169 (PS 636) Atomic Physics of Planetary Atmospheres.
Credits: 3; (Ident with ATY 636).

AST 6167 (PS 637) Physics of the Earth's Upper Atmosphere.
Credits: 3; (Ident with ATY 637).

AST 6168 (PS 638) Physics of Planetary Atmospheres.
Credits: 3; (Ident with ATY 638).

PHS 6209 (PS 642) Theory of Optical Spectra.
Credits: 3

PHY 6645 (PS 643) Quantum Mechanics 1.
Credits: 3

PHY 6646 (PS 644) Quantum Mechanics 2.
Credits: 3

PHY 6647 (PS 645) Quantum Mechanics 3.
Credits: 3

PHS 6225 (PS 647) Quantum Theory of Matter 1.
Credits: 3

PHS 6226 (PS 648) Quantum Theory of Matter 2.
Credits: 3

PHS 6227 (PS 649) Quantum Theory of Matter 3.
Credits: 3

PHS 6391 (PS 660) Seminar in Experimental Nuclear Physics.
Credits: 1

PHS 6326 (PS 661) Theoretical Foundations of Nuclear Physics.
Credits: 3

PHS 6336 (PS 662) Experimental Foundations of Nuclear Physics 1.
Credits: 3

PHS 6337 (PS 663) Experimental Foundations of Nuclear Physics 2.
Credits: 3

PHY 6648 (PS 671) Relativistic Quantum Mechanics.
Credits: 3

PHY 6668 (PS 672) Quantum Electrodynamics.
Credits: 3

PHY 6935 (PS 680) Seminar in Modern Physics.
Credits: 1††

PHS 6156 (PS 681) Computer Methods in Physics.
Credits: 3

PHY 6556 (PS 682) Low Temperature Physics.
Credits: 3

PHS 6493 (PS 685) Seminar in Low Temperature Physics.
Credits: 1

††Grading is on a S-U basis only.

PHY 6920 (PS 695) Departmental Seminar.
Credits: 1††

PHY 6909 (PS 696) Individual Work.
Credits: 3 to 5

PHY 6918 (PS 697) Supervised Research.
Credits: 1 to 5††

PHY 6940 (PS 698) Supervised Teaching.
Credits: 1 to 5††

PHY 6971 (PS 699) Master's Research.
Credits: 1 to 15††

PHY 7247 (PS 703) Advanced Classical Mechanics.
Credits: 3

PHY 7348 (PS 713) Advanced Electromagnetic Theory.
Credits: 3

PHY 7538 (PS 722) Advanced Statistical Mechanics 1.
Credits: 3

PHY 7539 (PS 723) Advanced Statistical Mechanical 2.
Credits: 3

PHS 7236 (PS 741) Atomic and Molecular Collisions 1.
Credits: 3

PHS 7237 (PS 742) Atomic and Molecular Collisions 2.
Credits: 3

PHS 7426 (PS 753) Physics of the Solid State 1.
Credits: 3

PHS 7427 (PS 754) Physics of the Solid State 2.
Credits: 3

PHS 7428 (PS 755) Physics of the Solid State 3.
Credits: 3

PHS 7228 (PS 756) Theory of Atomic and Molecular Structure 1.
Credits: 3

PHS 7229 (PS 757) Theory of Atomic and Modecular Structure 2.
Credits: 3

PHS 7327 (PS 764) Theory of Nuclear Spectroscopy.
Credits: 3

PHS 7357 (PS 771) High Energy Theory 1.
Credits: 3

PHS 7358 (PS 772) High Energy Theory 2.
Credits: 3

PHY 7097 (PS 781) Advanced Topics in Theoretical Physics.
Credits: 4

PHY 7098 (PS 782) Advanced Topics in Experimental Physics.
Credits: 4

PHY 7939 (PS 790) Special Topics.
Credits: 3

PHY 7980 (PS 799) Doctoral Research.
Credits: 1 to 15††

PLANT PATHOLOGY
College of Agriculture

INSTRUCTIONAL STAFF 1976-77
Purdy, L.H., Chairman; Bartz, J.A.; Berger, R.D.; Charudattan, R.; Cook, A.A.; Freeman, T.E.; Heibert, E.; Kucharek, T.A.; Luke, H.H.; Miller, H.N.; Mitchell, D.J.; Mullin, R.S.; Pring, D.R.; Purcifull, D.E.; Roberts, D.A.; Schenck, N.A.; Schmidt, R.A.; Stall, R.E.; Zetter, F.W.

PLP 3002 (PT 301) Lectures in Basic Plant Pathology. F, S.
Credits: 2; (Ident. with FRC 301); Prereq.: BTY 181 or equivalent; BTY 203 recommended.
Principles of plant disease. Reasons for many victories and a few defeats in the continuing battles against disease in plants.

PLP 3003 L (PT 311) Laboratory in Basic Plant Pathology. F, S.
Credits: 3; Prereq. or coreq.: PT 301 or equivalent.
Diseases that dramatize the laws of Plant Pathology.

PLP 3004 L (PT 313) Laboratory in Forest Pathology. W.
Credits: 3; (Ident. with FRC 313.) Prereq. or coreq.: PT 301 or equivalent.
Diagnosis, etiology, epidemiology, and control of important disease of forest trees.

PLP 4102 L (PT 402) Principles of Plant Disease Control. W.
Credits: 4; Prereq.: PT 301 or equivalent.
The principles af Plant Pathology as they apply to the problems of commercial control of economically important diseases of agronomic, fruit, ornamental, and vegetable crops.

PLP 4202 (PT 440) Transmission of Plant Pathogens by Vectors. F.
Credits: 3; Prereq.: PT 301 or equivalent, EY 301 or equivalent, and consent of instructor.
Principles regarding the transmission process of viral, fungal, and bacterial plant pathogens by arthropods, nematodes, and fungi. Field and laboratory techniques are included.

PLP 4906 (PT 496) Problems in Intermediate Plant Pathology. F,W,S,SS.
Credits: 1 to 5; Prereq.: PT 301 or equivalent.
Individual study and research in areas of special interest to undergraduate students whose major field in Plant Pathology.

GRADUATE COURSES

PLP 5032 L (PT 501) Intermediate Plant Pathology.
Credits: 3

PLP 5053 L (PT 541) Tropical Plant Pathology.
Credits: 4

PLP 6921 (PT 600) Colloquium in Principles of Plant Pathology.
Credits: 1

PLP 6223 (PT 611) Plant Virology Lecture.
Credits: 3

PLP 6223 L (PT 612) Plant Virology Laboratory.
Credits: 2

PLP 6241 (PT 621) Bacterial Plant Pathogens.
Credits: 5

PLP 6262 (PT 623) Fungal Plant Pathogens.
Credits: 5

PLP 6303 (PT 625) Physiology of Parasitism.
Credits: 5

PLP 6402 (PT 627) Epidemiology of Plant Disease.
Credits: 5

PLP 6502 (PT 629) Pathogen Variability and Host Resistance.
Credits: 5

PLP 6931 (PT 650) Seminar in Plant Pathology.
Credits: 1††

PLP 6281 (PT 691) Field Plant Pathology.
Credits: 2

PLP 6291 (PT 692) Plant Disease Diagnosis.
Credits: 2

PLP 6907 (PT 696) Problems in Advanced Plant Pathology.
Credits: 1 to 5

PLP 6911 (PT 697) Supervised Research.
Credits: 1 to 5††

PLP 6942 (PT 698) Supervised Teaching.
Credits: 1 to 5††

PLP 6971 (PT 699) Master's Research.
Credits: 1 to 20††

PLP 7980 (PT 799) Doctoral Research.
Credits: 1 to 20††

PLANT SCIENCES—GENERAL
General and Cross-Departmental Courses

Ward, C.Y., Chairman

The four Departments of Agronomy, Fruit Crops, Ornamental Horticulture, and Vegetable Crops have formulated this curriculum which consists of the following courses:

PLS 2031 (PLS 201) Fundamentals of Crop Production. F,W,S,SS.
Credits: 4; Prereq: BTY 181.
Fundamental principles and practices used in the production, improvement, and use of commercial crops.

PLS 2201 (PLS 211) Plant Propagation for the Amateur. S.
Credits: 2
Not open to majors in AY, FC, OH, PLS, or VC.

A laboratory course for nonmajors emphasizing basic principles and practices in seed and vegetative methods of propagating plants for the home.

PLS 3221 (PLS 301) Plant Propagation. F,S.
Credits: 3; Prereq.: PLS 201. Must be taken concurrently with PLS 311.
Principles, practices, and physiological aspects of the propagation of horticultural and agronomic crops by cuttage, graftage, seedage, and other methods.

PLS 3401 (PLS 302) Plant Science Operations.
Credits: 1; Prereq.: PLS 201 or permission of the instructor.
An opportunity for the student to make an extensive evaluation of the application of scientific principles within the several specialized fields of plant science. Representative areas of production will be visited in a 4-5 day field trip taken during the interim between quarter terms. Registration must follow completion of trip.

PLS 3221 L (PLS 311) Plant Propagation Laboratory. F,S.
Credits: 2; Prereq.: PLS 201. Must be taken concurrently with PLS 301.
Practice in propagation of horticultural and agronomic crops by seedage, cuttage, graftage, and other methods.

PLS 4601 (PLS 442) Weed Science. F.
Credits: 4; Prereq.: BTY 310, BTY 311, and CY 362 or equivalent.
Chemical, biological, and mechanical weed control; weed identification and characteristics of herbicides.

PLS 4701 (PLS 452) Field Plot Techniques. W.
Credits: 3
Techniques and procedures employed in field plot, greenhouse and laboratory research. Interpretation and disposition of research results.

POLITICAL SCIENCE
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77
Thompson, V.A.; Chairman; Bartley, E.R.; Berkson, L.C.; Button, J.W.; Clubok, A.B.; Conradt, D.P; Damico, A.J.; Dauer,M.J.; Fitch, J.S.; Harris, C.M.; Kelso, W.A.; Legg, K.R.; Lemarchand, R.; McQuown, O.R.; Maggiotto, M.A.; Morrison, J.F.; Munselle, W.G.; Rosenbaum, W.A.; Scher, R.K.; Spanier, J.W.; Suarez, A.; Swanson, B.E.; Thompson, V.A.; Wittkopf, E.R.

The department offers general courses in political science, and more specialized offerings in public administration and international affairs.

Students majoring in political science are required to take PCL 201, American Federal Government; PCL 207, Modern Political Systems; and PCL 209, International Relations, each course five quarter hours. A total of 45 quarter hours is required for the major.

Political Science majors with an overall upper division gradepoint average of 3.3. or better are eligible to pursue honors work in the department. The honors program consists of two parts: (1) PCL 455 Honors Preparation, and (2) PCL 456-57-58 Senior Seminar in Political Science.

Juniors and Seniors eligible for the honors program must take at least two quarters of PCL 455 (1 credit each) in conjunction with other Political Science courses at the 300 or 400 level. The student must secure permission of the instructor of the regular course to which they wish to add this special honors credit. PCL 455 itself consists of periodic tutorial sessions in which special reading and additional work relating to regular course is discussed. A separate grade is reported for the regular course and for PCL 455. Students are limited to a maximum of four hours of PCL 455.

Students selected for admission to the Senior Seminar in Political Science must have successfully completed at least two credits of PCL 455. The Senior Seminar consists of PCL 456, devoted to problems of conceptualization and research, and the honors thesis, PCL 457 and 458.

Political Science majors who have an overall upper division grade average of 3.5 or better and who satisfactorily complete the full 11 credits of the Senior Seminar, including the honors thesis, will be graduated with High Honors. Those who have an overall upper division average of 3.3 or better and who complete the Senior Seminar with at least 8 credits, including the honors thesis, will be graduated with Honors.

Note: PCL 456 is given only in the Fall quarter, PCL 457 in Winter quarter, and PCL 458 in the Spring quarter. If you hope to graduate with honors see an advisor to plan your schedule.

Graduate courses and seminars are offered leading to both M.A. and PH.D. degrees. These courses are numbered in the 600 series and are open only to graduate students.

POS 2041 (PCL 201) American Federal Government, F, W, S, SS.
Credits: 5
Basic principles of the Federal Constitution. Civil Rights. Political parties and the electoral process. The structure and machinery of the federal government, including the Congress, President, and Judiciary.

POS 2001 (PCL 203) Introduction to Political Theory. W.
Credits: 3.
Consideration of major themes in political thought. Discussion of basic problems surrounding the individual's relationship to the state.

CPO 2002 (PCL 207) Comparative Politics. F, W, S, SS.
Credits: 4
The classification of political systems according to institutional and developmental characteristics. Causes and costs of political stability and instability. Comparison will relate to contemporary political institutions and processes in specific countries.

INR 2002 (PCL 209) International Relations. F, W, S, SS.
Credits: 4
Tha nature of international relations; nationalism, imperialism, militarism, armaments; history of international relations, foreign policies, functions and problems of democracy; international organization, the United Nations.

POS 2112 (PCL 220) American State and Local Government. F, W, S, SS.
Credits: 3
State constitutions, political parties, and politics. State legislatures, courts and chief executives. The functions of state governments. City and county government.

PUP 2002 (PCL 221) Setting National Priorities. F, W, S.
Credits: 3
A general introduction to public policy. The focus is on the selection, costs and consequences of policy goals in America.

INR 3102 (PCL 310) The U.S. and World Affairs. F, W, SS.
Credits: 4; Prereq. PCL 209 or instructor's permission.
An analysis of the tradition and development of American foreign policy with major emphasis on contemporary foreign policy problems.

INR 3104 (PCL 311) The Making of American Foreign Policy. W.
Credits: 4; Prereq.: PCL 209 or instructor's permission.
Examination of the principal factors influencing the formulation of U.S. foreign policy, including the international environment, information processing, personality factors, political culture, decision makers, and decision making. Consideration is also given to the institutional setting, including the President, Congress and public opinion.

POS 3263 (PCL 315) Political Leadership. F.
Credits: 4
Conceptual and comparative study of leadership in a variety of political contexts.

POS 3002 (PCL 316) Analyzing Politics. S.
Credits: 5
An introduction to the theory and method of contemporary political analysis. Emphasis on alternative analytical frameworks, concepts, variables, measurement, and quantitative analysis of political data.

POS 3204 (PCL 317) Political Behavior. S.
Credits: 4
Factors influencing political decisions by the individual and by groups.

POS 3253 (PCL 318) Violence and Politics. F.
Credits: 4
Political violence in theory and practice. Effects of violence. How it may be limited. Will be offered with changing content and changing area emphasis.

PUP 3323 (PCL 319) Women in Politics. F.
Credits: 4
An investigation of women as a minority group in American politics and the various strategies now employed to change this status.

††Grading is on a S-U basis only.

Descriptions

POS 3443 (PCL 320) Political Parties. F, W, S, SS.
Credits: 4; Prereq.: PCL 201.
The composition, organization and structure of political parties and their role and relationships in the political process.

POS 3413 (PCL 321) The Presidency, F. W. S, SS.
Credits: 4; Prereq.: PCL 201.
The central role of the American Presidency in the political process. Emphasis on the contemporary institutional nature of that office and the behavior of its occupants.

POS 3233 (PCL 322) Political Opinion. W.
Credits: 4; Prereq.: PCL 201.
Study of the definition and measurement of political opinion by polls and surveys, developmental character of opinions, variables in opinion formation, experiments in opinion measurement and the relation of political opinion to public theory.

PUP 3204 (PCL 323) Politics, Ecologys and Energy. F, S.
Credits: 4
Problems of conservation, pollution. Group pressures and inter-action for and against development.

POS 3144 (PCL 325) Urban Politics. F, S.
Credits: 5; Prereq.: PCL 201.
An examination of urban problems and their resolutions.

CPO 3034 (PCL 326) Politics in Developing Nations. W.
Credits: 4; Prereq.: PCL 207.
A general introduction to politics in "third world" nations, an examination of common problems and the various strategies for dealing with them.

CPO 3083 (PCL 327) The Military in Politics. F.
Credits: 4
An analysis of the sources and uses of the political power of the Armed Forces, the causes and consequences of military intervention in politics, and contrasting patterns of civil-military relations in Western and non-Western societies.

POS 3122 (PCL 329) American State Politics. W.
Credits: 4; Prereq.: PCL 201.
Analysis of selected topics in American state politics.

POS 3173 (PCL 333) Southern Politics. F.
Credits: 4; Prereq.: PCL 201.
The changing politics of the South; two party development, urbanism, traditionalism, racisim.

POS 3652 (PCL 335) American Civil Liberties. F, S.
Credits: 4 (not open to those taking PCL 403).
Discussion of statutes and court decisions exphasizing First Amendment freedoms, equal protection of the law, due process and rights of defendants, implied rights, and the rights of women, juveniles, students, prisioners and the mentally ill.

POS 3273 (PCL 339) Political Participation. S.
Credits: 4; Prereq.: PCL 201.
Examination of popular participation in the political process and analysis of implications for political order in contemporary societies.

CPO 3303 (PCL 340) Introduction to Latin American Politics. F, S.
Credits: 4
An introduction to and overview of political patterns and political behavior in Latin America within a comparative and developmental perspective. Emphasis on the social, economic, and political factors shaping contemporary political structures and processes.

CPO 3134 (PCL 341) Politics in Britain and the Commonwealth. S.
Credits: 4; Prereq.: PCL 207.
The government and politics of Great Britain and the Commonwealth of Nations. Special emphasis on historical, cultural, social, and economic determinants of current institutions and policies. Constitutions, parties, legislatures, executives, civil service systems, law, and local government.

CPO 3513 (PCL 342) Politics in China and Japan. W.

Credits: 4; Prereq.: PCL 207.
An analysis of the government and political process in China and Japan. Special emphasis on the historical social and economic determinants of current political institutions and political behavior.

CPO 3204 (PCL 343) African Politics. F.
Credits: 4; Prereq.: PCL 207.
African nationalism, political movements, and the study of governments in the African states.

POT 3314 (PCL 365) American Political Thought. W.
Credits: 4; Prereq.: Junior or Senior standing in social sciences.
Analysis of major historical and recent interpretations of the American political system. Consideration of such theories as Madisonian democracy, pluralism, elitism, liberalism, and conservatism.

POS 4634 (PCL 401) American Constitutional law. F.
Credits: 3; Prereq.: PCL 201 and Junior or Senior standing.
A complete study and analysis of the Federal Constitution, with study and briefing of leading cases in constitutional law.

POS 4644 (PCL 402) American Constitutional Law. W.
Credits: 3; Prereq.: PCL 201 and 401 and Junior of Senior standing.
The second quarter of the course PCL 401-402-403.

POS 4654 (PCL 403) American Constitutional Law. S.
Credits: 3; Prereq.: PCL 201 and 402 and Junior or Senior standing.
The third quarter of the course PCl 401-402-403. Cannot be taken by students who have taken PCL 345.

INR 4403 (PCL 404) International Law. F.
Credits: 3; Prereq.: PCL 201 and Junior or Senior standing.
Study of the main principles of the Law of Nations; case study to illustrate its application; the World Court; the War Crimes trials; decisions in the United States involving questions of International Law.

POT 4034 (PCL 407) Great Political Thinkers: Ancient and Medieval. F.
Credits: 4
Study of major early political theorists including Plato, Aristotle, St. Augustine, and St. Thomas Aquinas. Emphasis on the principles of a just political order: natural law, civic virtue, constitutionalism. Analysis of church-state struggles and the emergence of the modern state.

POT 4044 (PCL 408) Great Political Thinkers: Machiavelli to Marx. W.
Credits: 4
Study of selected political theorists from Machiavelli to Marx. Emphasis on the ideas of authority and freedom, obligation and consent in the writings of Hobbes, Locke, Rousseau, etc. Liberalism, conservatism, utilitarianism, idealism.

POT 4054 (PCL 409) Contemporary Theories of the State. S, SS.
Credits: 4; Prereq.: 10 hours of Political Science.
A study of the problems of power and justice under the modern state. Consideration of such political doctrines as anarchism, Marxism, fascism and democracy.

POT 4414 (PCL 410) Communism: Theory and Practice. F, S. SS.
Credits: 5; Prereq.: Junior or Senior standing; PCL 207 or 209 recommended, but not required.
Emphasis on the interrelationship of theory and practice in the evolution of Marxist-Leninist theory and developments in various communist political systems. The appeals of communism. Cadre training. The development of the international communist system.

PAD 4003 (PCL 411) Introduction to Public Administration. F, W, S.
Credits: 4
The role of administrative agencies in the formulation and implementation of public policy. Emphasis on the politics of administration. Problems in administrative management.

PUP 4003 (PCL 412) Issues in American Politics. F, W, S.
Credits: 4; Prereq.: PCL 201, plus Junior or Senior standing.
Examples of policy conflict drawn from urnbanism, poverty and other areas of national socio-economic policy. Consideration of policy alternatives. Peaceful against violent solutions and effects on groups.

PAD 4034 (PCL 413) Problems of Public Administration. F, W.
Credits: 4; Prereq.: PCL 411 and Junior or Senior standing.
A treatment of the political-administrative dimensions of government planning, personnel, and finance.

PAD 4803 (PCL 414) Urban Administration. S.
Credits: 4; Prereq.: Junior or Senior standing.
An introduction to government administration and management in urban settings. Emphasis will be placed upon the programmatic aspects of urban governmental management. Topics included are program initiation, formulation, implementation, operation and evaluation.

POS 4284 (PCL 416) Judicial Policy Making. W.
Credits: 4.: Open to Juniors & Seniors.
An analysis of judicial policy making processes focusing on national level appellate courts.

POS 4682 (PCL 417) Administration of Justice. F, S.
Credits: 4
How the administration of justice operates through the courts and through law.

POS 4691 (PCL 418) Social Effects of Law. W.
Credits: 4
Social results of supreme court decisions in areas such as reapportionment; civil rights; school prayer; integration. Results and public reaction.

PUP 4313 (PCL 419) Minorities and Change in American Politics. W.
Credits: 4
An analysis of the political strategies employed by various racial and ethnic minorities in the United States.

(PCL 422) Legislative Politics. F, W, S.
Credits: 4; Prereq.: PCL 201 and Junior or Senior standing.
The politics of the legislative process. Recruitment of legislators. Formal and informal rules of behavior. Legislative-executive relations. The committee system. The impact of political parties, interest groups, and constituents on the legislative process.

PUP 4104 (PCL 424) Politics of Planning. W.
Credits: 4; Prereq.: Junior or Senior standing in the social sciences or instructor's permission.
An assessment of the various political factors shaping the direction and tasks of the planner. The planning process will be viewed as having a number of social and economic consequences.

PUP 4404 (PCL 427) Politics of Education. W.
Credits: 4; Prereq.: Junior or Senior standing or instructor's permission.
The interrelationship of American political and educational systems; educational policymaking as political process; analysis of contemporary educational problems.

POS 4246 (PCL 428) Political Socialization. F.
Credits: 4
Examination of the processes by which politically important values and ideas are learned and the agents involved in these processes. The impact of the family, schools, social groupings (class, race, sex), and secondary groups. Political interest, efficiency, and participation considered. Attitudes toward political system.

POS 4930 (PCL 430) Special Topics Course.
Credits: 4
Selected topics in political science; precise course content will be announced in advance.

INR 4204 (PCL 435) Comparative Foreign Policy. F.
Credits: 4; Prereq.: PCL 209 and Junior or Senior standing.
Special topics in international relations and foreign policy such as broad-based comparative analysis of foreign policy behavior, comparative international subsystems, reinterpretation of concepts such as nationalism and imperialism.

INR 4114 (PCL 436) American Military Strategy. S.
Credits: 4; Prereq.: PCL 209 and Junior or Senior standing.
This course focuses on contemporary problems of deterrence, arms controls, limited conventional war and revolutionary warfare and upon the assumptions underlying the whole scope of national security policy.

INR 4502 (PCL 437) International Institutions. W.
Credits: 4; Prereq.: PCL 209 or PCL 404-405-406 and Junior or Senior standing.
Analysis of the political and functional aspects of international organization and administration Alternating emphasis on either global organizations, such as the United Nations, or regional organizations such as the European Economic Community.

INR 4244 (PCL 438) International Politics of Latin America. W.
Credits: 4; Prereq.: PCL 209 or advanced standing in Latin American studies.
An analysis of the international politics of Latin America. Includes relations with the United States and non-hemispheric powers as well as the foreign policies of Latin American states vis-a-vis each other.

CPO 4304 (PCL 441) Political Systems of Latin America: Modernization. Authoritarianism, Revolution. W.
Credits: 4; Prereq.: PCL 340 or equivalent experience.
Political responses to modernization in Latin America with emphasis of authoritarian regimes in Argentina and Brazil and the role of revolution in Mexican and Cuban development.

(PCL 442) Contemporary Problems in Latin American Politics. F.
Credits: 5; Prereq.: PCL 340 or equivalent experience.
The analysis of major themes and issues in the study of Latin American politics; the breakdown of democratic systems, dependency and imperialism, revolutionary movements and regimes. Will be offered with changing content.

CPO 4633 (PCL 443) Politics in the Soviet Union and Eastern Europe. W.
Credits: 4; Prereq.: PCL 207 or PCL 410.
A comparative analysis of the formal structures of government and political parties of the Soviet Union and Eastern Europe, the actual operation of their political systems, and the factors which have influenced their development.

CPO 4614 (PCL 444) Eastern European Communist States. S.
Credits: 4; Prereq.: PCL 207 or PCL 410.
Comparative analysis of Communist parties and governmental systems of the Eastern European Communist government.

CPO 4102 (PCL 445) Western European Politics. S.
Credits: 4; Prereq.: PCL 207.
A comparative analysis of the government and politics of the major western European countries. Special emphasis will be given to party systems and the social bases of politics in industrialized societies.

CPO 4144 (PCL 447) Politcs in Post-Industrial Societies. S.
Credits: 3; Prereq.: PCL 207
Comparative analysis of smaller European states with emphasis on diverse patterns of economic, social and political development as determinants of current political structures and policies.

POS 4936 (PCL 450) Senior Colloquium. F, W, S.
Credits: 3; Senior standing in Political Science and permission of instructor required.
Special topics in Political Science on a colloquium basis for Seniors.

POS 4932 (PCL 455) Honors Preparation, F, W, S, SS.
Credits: 1. Maximum of 4 credits allowed. Prereq.: UF overall GPA of 3.3.
Must be taken in conjunction with other PCL courses at the 300 or 400 level. Open to PCL majors with overall UF GPA of 3.3. Students must secure permission of instructor of the course to which they wish to add this credit.

POS 4936 (PCL 456) Senior Seminar in Political Science. F.
Credits: 4; Prereq.: Senior major in department and permission of a departmental adviser.
An analysis of the problems of conceptualization and research in the various areas of political science.

POS 4936 (PCL 457) Senior Seminar in Political Science. W.
Credits: 3; Prereq.: PCL 456.
Honors thesis.

POS 4936 (PCL 458) Senior Seminar in Political Science. S.
Credits: 3; Prereq.: PCL 457.
Honors Thesis.

POT 4064 (PCL 466) Analytic Political Theory: Ideas, Arguments and Political Choices. S.
Credits: 4
Analysis of the concepts and arguments surrounding power liberty, equality, representation and majority rule, obligation and disobedience, censorship and tolerance.

POS 4925 (PCL 489) Workshop in Political and Social Issues. F.
Credits: 4
A workshop course for advanced Juniors and Seniors majoring in political science on a topic involving practical application.

SSI 4601 (PCL 491) Masterpieces in Social Sciences 1. F.
Credits: 4; (Ident. with ES 491, HY 491 and SY 491) Prereq.: Senior standing and a major in the social sciences.
For advanced students with background work in the social sciences who have approval of their major adviser and the course chairman. Reading of classics in economics, history, political science, sociology and cultural anthropology.

SSI 4602 (PCL 492) Masterpieces in Social Sciences 2. W.
Credits: 4; (Ident. with ES 492, HY 492 and SY 492) Prereq.: Senior standing and a major in one of the social sciences.
The second quarter of the course PCL 491-492-493.

SSI 4603 (PCL 493) Masterpieces in Social Sciences 3. S.
Credits: 4; (Ident. with ES 493, HY 493 and SY 493) Prereq.: Senior standing and a major in one of the social sciences.
The third quarter of the course PCL 491-492-493.

POS 4905 (PCL 496) Individual Work, F, W, S, SS.
Credits: 5
Readings and discussion in advanced topics of political science; requires Departmental permission.

GRADUATE COURSES

CPO 5636 (PCL 505) Politics in the Soviet Union and Eastern Europe.
Credits: 5

(PCL 506) Eastern European Communist States.
Credits: 5

CPO 5103 (PCL 508) Western European Politics.
Credits: 5

CPO 5145 (PCL 511) Smaller European States.
Credits: 5

PAD 5035 (PCL 514) Problems of Administration and Policy.
Credits: 5

POS 5684 (PCL 516) Administration of Justice.
Credits: 5

POS 5424 (PCL 517) Legislative Politics.
Credits: 5

INR 5207 (PCL 524) Comparative Foreign Policy.
Credits: 5

INR 5504 (PCL 527) International Institutions.
Credits: 5

POS 5933 (PCL 530) Special Topics Course.
Credits: 5

INR 5245 (PCL 540) International Politics of Latin America.
Credits: 5

CPO 5305 (PCL 541) Political Systems of Latin America: Modernization, Authoritarianism, Revolution.
Credits: 5

CPO 5306 (PCL 542) Contemporary Problems in Latin American Politics.
Credits: 5

INR 5334 (PCL 547) American Military Strategy.
Credits: 5

POS 5247 (PCL 550) Political Socialization.
Credits: 5

PUP 5405 (PCL 551) Politics of Education.
Credits: 5

PUP 5105 (PCL 555) Politics of Planning.
Credits: 5

(PCL 557) Social Effects of Law.
Credits: 5

PAD 5804 (PCL 560) Urban Administration.
Credits: 5

POS 5909 (PCL 596) Individual Work.
Credits: 5

POS 6706 (PCL 601) Political Science Scope and Method.
Credits: 4

PAD 6053 (PCL 604) Public Administration Problems.
Credits: 5

PSYCHOLOGY

PAD 6026 (PCL 605) Public Administration Procedures.
Credits: 4

PAD 6946 (PCL 606) Internship in Government.
Credits: 4

(PCL 607) Practicum in Applied Political Science.
Credits: 5

POT 6611 (PCL 609) Problems in Political Theory.
Credits: 5

POS 6736 (PCL 613) The Conduct of Inquiry.
Credits: 5

POS 6757 (PCL 615) Survey Research.
Credits: 5

POT 6017 (PCL 616) Seminar in Political Theory I.
Credits: 5

POT 6027 (PCL 617) Seminar in Political Theory II.
Credits: 5

POS 6747 (PCL 618) Seminar in Political Behavior: Polimetrics.
Credits: 5

POT 6207 (PCL 619) History of American Political Theory.
Credits: 5

POT 6087 (PCL 620) Latin American Political Theory.
Credits: 5

POS 6727 (PCL 621) Political Model Building.
Credits: 5

PAD 6108 (PCL 622) Seminar in Public Administrative Behavior.
Credits: 5

PAD 6109 (PCL 623) Seminar in Public Administrative Behavior.
Credits: 5

PAD 6836 (PCL 624) Seminar in Comparative Public Administration.
Credits: 5

INR 6607 (PCL 627) Seminar in International Relations and Organization I.
Credits: 5

INR 6087 (PCL 628) Seminar in International Relations and Organization II.
Credits: 5

POS 6717 (PCL 629) Empirical Political Theory.
Credits: 5

POS 6934 (PCL 630) Special Topics Course.
Credits: 5

POS 6617 (PCL 639) Seminar in Public Law.
Credits: 5

INR 6417 (PCL 643) Seminar in International Law.
Credits: 5

PAD 6327 (PCL 650) Seminar in Government and the Planning Process.
Credits: 5

POS 6157 (PCL 652) Community Analysis.
Credits: 5

POS 6045 (PCL 653) Seminar in American Federal Government.
Credits: 5

POS 6127 (PCL 654) Seminar in State Government and Politics.
Credits: 5

POS 6447 (PCL 655) Seminar in Political Parties.
Credits: 5

††Grading is on a S-U basis only.

CPO 6007 (PCL 660) Seminar in Comparative Government.
Credits: 5

CPO 6107 (PCL 662) Comparative Studies in Western European Political Systems.
Credits: 5

CPO 6517 (PCL 664) Seminar in Far Eastern Governments and Politics.
Credits: 5

CPO 6637 (PCL 666) Seminar in Russian and Eastern European Governments and Politics.
Credits: 5

CPO 6207 (PCL 668) Seminar in African Governments and Politics.
Credits: 5

CPO 6307 (PCL 670) Seminar in Latin American Government and Politics I.
Credits: 5

CPO 6308 (PCL 672) Seminar in Latin American Government and Politics II.
Credits: 5

CPO 6357 (PCL 674) Seminar in Brazilian Government and Politics.
Credits: 5

POS 6909 (PCL 696) Individual Work.
Credits: 1 to 5

POS 6919 (PCL 697) Supervised Research.
Credits: 1 to 5††

POS 6940 (PCL 698) Supervised Teaching.
Credits: 1 to 5††

POS 6971 (PCL 699) Master's Research.
Credits: 1 to 15††

POS 7980 (PCL 799) Doctoral Research.
Credits: 1 to 15††

POULTRY SCIENCE
College of Agriculture

INSTRUCTIONAL STAFF 1976-77
Harms, R.H.; Chairman; Arafa, A.S.; Damron, B.L.; Douglas, C.R.; Fry, J.L.; Janky, D.M.; Miles, R.D.; Voitle, R.A.; Wilson, H.R.

PSE 3211 C (PY 312) Incubation, Brooding and Rearing. W.
Credits: 4
Chick embryology; hatchery equipment; incubation principles and practices; brooding equipment and methods; rearing of pullets; chick sexing and judging. Field trips to hatchery, broiler and egg operations.

PSE 4941 (PY 400) Full TimePractical Work Experience in the Poultry Industry. F,W,S,SS.
Credits: 1 to 4; S-U Grade only. Prereq.: Prior arrangement with adviser; approval of Department Chairman and Dean.

PSE 4411 C (PY 414) Poultry Nutrition. F.
Credits: 4; Prereq.: ADP 314, 315
Nutritive requirements. Feed formulation, economics and systems of feeding poultry. Production of various vitamin and mineral deficiencies in the laboratories.

PSE 4223 (PY 415) Poultry Management S.
Credits: 4; Prereq.: ADP 311.
Management techniques for broilers, layers, turkeys, hatcheries, and commercial egg and poultry processing plants. Field trips to various poultry operations.

PSE 4311 (PY 422) Poultry Breeding. SS.
Credits: 3; Prereq.: ADP 322.
Genetic characteristics, breeds and principles of applied poultry breeding.

PSE 4611C (PY 453) Poultry Products Technology. W.
Credits: 4; (Ident. with FS 453); Prereq.: ADP 311.
Processing methods, composition, nutritive value, flavor palatability and shelf-life of poultry meat and eggs.

GRADUATE COURSES

PSE 6931 (PY 607) Topics in Poultry Production.
Credits: 2 to 4

PSE 6522 (PY 612) Avian Physiology.
Credits: 3 to 5

PSE 6415 (PY 614) Advanced Poultry Nutrition.
Credits: 4

PSE 6227 (PY 631) Advanced Poultry Management.
Credits: 4

PSE 6614 (PY 653) Advanced Poultry Products Technology
Credits: 4

PSE 6938 (PY 660) Graduate Seminar in Poultry Science.
Credits: 1

PSE 6391 (PY 664) Topics in Genetics.
Credits: 2 to 4

PSE 6905 (PY 696) Problems in Poultry Science.
Credits: 1 to 4
May be repeated with change of content up to a maximum of 12 credits.

PSE 6911 (PY 697) Supervised Research.
Credits: 1 to 5††

PSE 6942 (PY 698) Supervised Teaching.
Credits: 1 to 5††

PSE 6971 (PY 699) Master's Research.
Credits: 1 to 15††

PSYCHOLOGY

INSTRUCTIONAL STAFF 1976-77
Meyer, M.E., Chairman; Van Hartesveldt, C.J., Coordinator of Undergraduate Studies; Anderson, R.J.; Baldbridge, B.L.; Berg, W.K.; Brackbill, Y.; Branch, M.N.; Campbell, J.B.; Cunningham, W.R.; Dewsbury, D.A.; Dirks, J.A.; Dixon, J.C.; Epting, F.R.; Fischler, I.S.; Griggs, R.A.; Isaacson, R.L.; Johnston, J.M.; Landsman, T.; Lester, B.M.; Levy, C.M.; Malagodi, E.F.; Nevill, D.D.; Pennypacker, H.S.; Schlenker, B.R.; Scott, R.R.; Severy, L.J.; Shaw, M.E.; Swanson, R.M.; Teas, D.C.; Waldbillig, R.J.; Webb, W.B.; White, K.D. Yost, W.A.; Ziller, R.C.

An undergraduate psychology major consists of a minimum of 50 hours of psychology. At least 40 of the 50 hours must be in upper division courses. At least 25 of the 50 hours must be taken at the University of Florida.

The courses should be distributed across three levels as follows:

1. Introductory level: PSY 201

2. Foundation level: Student chooses a minimum of two courses from each of these two groups:

Group A: PSY 334, PSY 320, PSY 372, PSY 377

Group B: PSY 313, PSY 303, PSY 345

3. Intermediate and advanced level: In addition to foundation and other 300-level courses the student chooses as many courses from this level (400- and 500- level) as necessary to com-

plete his major. All courses at this level have STA 320 as a prerequisite. STA 320 is required. STA 321 is highly recommended.

The student is encouraged to obtain a brochure from the psychology department which suggests courses appropriate to various areas.

Department Honors: Students who have completed a substantive and empirical research paper at the University of Florida may request that their research supervisor submit a copy of the paper to the Psychology Honors Committee for evaluation. The committee will recommend that the student graduate with Honors in Psychology if the project exhibits outstanding scholarship, and if the student has earned at least a 3.5 grade point average in all upper division courses and in all psychology courses. Deadlines for submission of research projects to the Undergraduate Coordinator, who serves as chairperson of the Psychology Honors Committee, are available in room 114 of the Psychology Building and in the office of the Undergraduate Coordinator.

PSY 2013 (PSY 201) General Psychology. F, W, S, SS.
Credits: 4
Introductory course designed to provide an understanding of human behavior through an intensive consideration of Psychological Measurement, Perception, Learning, Memory, Motivation, Emotion, Psychological Testing, Personality, and professions and specialized areas in Psychology. In order to provide greater depth to the course, all students are required to participate in research projects (or in *prescribed* alternative equipvalent experience).

DEP 3002 (PSY 303) Development Psychology. F, W.
Credits: 4; Prereq.: PSY 201.
Theory and research on psychological development from prenatal stages through adulthood.

SOP 3004 (PSY 313) Social Psychology. F, W, S, SS.
Credits: 4; Prereq.: PSY 201.
A study of the social factors influencing individual behavior. Consideration of socialization, social influence and conformity, social interaction, decision-making, attitudes and opinions, and related topics.

EAB 3002 (PSY 320) Introduction to Behavior Analysis. F, W, S. SS.
Credits: 4; Prereq.: PSY 201.
An introduction to and survey of the principles, methods, theories and applications of the Experimental Analysis of Behavior.

EXP 3604 C (PSY 334) Introduction to Cognition and Perception. F, W, S, SS.
Credits: 4; Prereq.: PSY 201.
Factors influencing learning, memory thinking, information processing, and perceiving, and consideration of the methods used to study these phenomenona. An optional laboratory course, PSY 439, may be taken concurrently with this course.

EXP 3204 (PSY 335) Preception and Human Senses. F, W, S,SS.
Credits: 4; Prereq.: PSY 201.
An inductory survey of the human senses and their role in perception, considering how we sense the physical environment and what factors influence our perception of it. An optional laboratory course, PSY 431, may be taken concurrently with this course.

EXP 3933 (PSY 336) Psychlogy of Sleep and Dreams. W.
Credits: 3
The factors that affect sleep: age, deprivation, shifts, day-to-day activities, individual differences, etc., and the effects of sleep variations on performance. Sleep anomalies: insomnia, sleep walking, etc. The meaning of dreams.

PCO 3714 (PSY 342) Personal Growth. F, W, S, SS.
Credits: 4.
An introduction to the concepts and techniques in psychology which apply to personal growth and development. In order to provide greater depth to the course, all students are required to participate in research projects (or prescribed alternative equivalent experiences).

PPE 3004 (PSY 345) Psychology of Personality. F, W, S, SS.
Credits: 4; Prereq.: PSY 201.
Development and organization of personality, description and assessment methods, results of research in dynamics.

(PSY 347) Psychology of Women. F, S.
Credits: 3; Prereq.: PSY 201.
A survey of the research and theory relating to the psychology of women. Course content includes personality, social, and developmental variables.

PSB 3004 (PSY 371) Introduction to Physiological Psychology. F, S.
Credits: 4; Prereq.: PSY 201.
An introductory survey of the concepts, data, and methods of physiological psychology.

CBH 3003 (PSY 377) Basic Comparative Psychology. F.
Credits: 4; Prereq.: PSY 201.
Survey of the approaches to and concepts of the study of animal behavior as related to psychology.

EXP 3714 L (PSY 379) Laboratory Topics in Psychophysics. F, S.
Credits: 2; (Ident with MED 300); Prereq.: PSY 201 or consent of instructor.
A practicum in experimental methodology. Students collect, analyze, and evaluate data on specific problems related to brain mechanisms of skin sensation.

PSY 3912 (PSY 399) Introduction to Research in Psychology. F, W, S, SS.
Credits: 1 to 6††; Prereq.: PSY 201; Consent of Instructor.
An introduction to current techniques used in research in the various areas of psychology by participation in on-going research.

DEP 4115 (PSY 402) Infancy and Early Childhood. F, S.
Credits: 5; Prereq.: PSY 201 and PSY 303.
The course will emphasize the development of psychological process during infancy and early childhood as well as prenatal, perinatal and postnatal influences on development.

DEP 4305 (PSY 403) Adolescent Psychology. W.
Credits: 5; Prereq.: PSY 303 and PSY 402.
Biological, psychological, and sociological perspectives on adolescence. Includes such topics as dynamics of socialization, self-concept and identity, peer groups, and problems of adolescence.

DEP 4204 (PSY 404) Psychology of Exceptional Children. F, W, S, SS.
Credits: 5; Prereq.: PSY 201 and PSY 303.
Definition and proper classification of types of exceptional children, and the social, psychological, and physical factors involved. Problems of rehabilitation and psychological treatment of the exceptional child.

DEP 4704 (PSY 405) Research Methods in Child Development. W, S.
Credits: 4; Prereq.: PSY 303, PSY 402, STA 320.
Methodological approaches to the study of child behavior including experimental and observational techniques.

DEP 4404 (PSY 409) Psychology of Aging. W, S.
Credits: 4;Prereq.:PSY 303.
Topics in the field of gerontology from a lifespan developmental prespective, including the development of psychological processes in the aged, psychological problems of the aged, and theoretical and methodological issues in the study of the aged.

(PSY 410) Experimental Social Psychology. F, W, S, SS.
Credits: 4; Prereq.: PSY 313, PSY 413, STA 320.
Laboratory training and basic experimental techniques and procedures used in the investigation of social-psychological processes.

(PSY 411) Contemporary Issues in Social Psychology. F,W,S,SS.
Credits: 4; Prereq.: PSY 313 or PSY 413 and STA 320
A review and discussion of recent issues and advances in social psychology. Contemporary concerns with regard to both theory and research in the laboratory and the community will be the focus of this advanced offering. Example topics to be covered are: moral and value development, altruism, risky shift, prejudice, modeling, deviance and social change.

SOP 4513 (PSY 412) Human Conflict and Accord. F, S, SS.
Credits: 3; Prereq.: PSY 201.
Theory, research, and applications of interpersonal and intergroup conflict control. A field observation by small study groups is required.

SOP 4524 (PSY 413) The Psychology of Small Group Behavior. F, W, S, SS.
Credits: 4; Prereq.: PSY 313.
A consideration of the behavior of individuals as influenced by other individuals and by the relations among individuals.

SOP 4404 (PSY 414) Attitudes and Attitude Change. W, S.
Credits: 4; Prereq.: PSY 313 and STA 320.
The social psychology of attitudes and values, concentrating on how attitudes are defined, measured, formed, and changed. Major emphasis is placed on social psychological theories and research bearing on attitude information and change.

SOP 4334 (PSY 415) Community Social Psychology Research. F, W.
Credits: 4; Prereq.: PSY 313 and STA 320.
Community research projects in such areas as studies of urban planning, community conflict, criminal justice, community perception, race relations, the Ombudsman, the meaning of work, citizen participation, quality of life, and social intervention. May be repeated up to a maximum of 8 credits.

EAB 4022 C (PSY 420) Introduction to Laboratory Procedures in Behavior Analysis. F, W, S, SS.
Credits: 5: Prereq.: PSY 320.
An introduction to general laboratory procedures and apparatus employed in the experimental analysis of animal behavior. Daily laboratory sessions focus upon experimental treatments, apparatus programming, and data analysis.

EAB 4704 (PSY 421) Introduction to Applied Behavior Analysis, F, W, S, SS.
Credits: 5
Recording and charting human behavior. Tactics of behavior management; theory and research.

EAB 4184 (PSY 422) Behaviorism in Contemporary Society. S.
Credits: 4; Prereq.: PSY 320.
Consideration of the applications of behavioral science and technology to contemporary society with emphasis upon the implications of behavioristic theory and the experimental analysis of behavior.

EAB 4724 C (PSY 423) Precise Behavior Management. F,W,S,SS.
Credits: 1 to 5
Applications of the principles of behavior analysis to problems involving human behavior

change, particularly in an educational context. May be repeated with change in content to a maximum of 8 credits.

EAB 4033 C (PSY 424) Strategies and Tactics of Human Behavioral Research. F.
Credits: 4; Prereq.: PSY 320
Study of a scientific approach to investigating human behavior in applied settings.

(PSY 425) Applications in Behavior Modification and Behavior Therapy. F, S.
Credits: 4; Prereq.: PSY 320.
Reading and discussion about behavioral applications with psychotic children, in mental retardation, with juvenile delinquency, in community mental health, within the family, in preschool and school settings, with alcoholism, with eating disorders, with physiological function and disease, with sexual disorders, with neuroses, with chronic mental hospital patients, and in behavioral technology.

EAB 4933 C (PSY 428) Seminar in Research Methods in Behavior Analysis. F, S.
Credits: 1 to 5; Repeatable up to maximum of 10 credits with change of content; Prereq.: at least one of PSY 423, PSY 424, PSY 425, PSY 426, or PSY 427, as appropriate to current content; and consent of instructor.
Advanced study of special research topics with which the student has had individual laboratory experience. Emphasis is upon research strategies and methodological considerations in specialized areas of experimentation.

EAB 4234 C (PSY 429) Stimulus Control. W.
Credits: 4; Prereq.: PSY 320.
The characteristics of the sensory systems approached from the orientation of an experimental analysis of each system's capabilities.

(PSY 430) Psychoacoustics I. F, W, S, SS.
Credits: 5; Prereq.: SCH 390. (Ident. with SCH 492)
Lectures, discussions and laboratory work on auditory stimulus, psychoaccoustical methodology; general models of auditory processing.

(PSY 431) Laboratory in Perception and Human Senses. F, W, S, SS.
Credits: 1 to 4; Coreq.: PSY 335, 435, or 436.
Students collect, analyze, and evaluate data on specific problems related to sensory or perceptual abilities. Optional component of PSY 335, 435, or 436. Designed for students preparing for graduate study in psychology. May be repeated with change of content up to a maximum of 4 credits.

EXP 4502 C (PSY 433) Human Learning. F.S.
Credits: 4; Prereq.: PSY 334.
Consideration of the factors which influence the ease and difficulty of our learning verbal materials, emphasizing the classical theories and data. An optional laboratory component, PSY 439, may be taken concurrently.

EXP 4504 C (PSY 434) Human Memory. W, S.
Credits: 4; Prereq.: PSY 334.
Contemporary theories and data on human memory, with emphasis on the information processing approach. An optional laboratory component, PSY 439, may be taken concurrently.

(PSY 435) Sensory Processing. F.
Credits: 4; Prereq.: PSY 335.
An introduction to information processing by sensory systems with consideration of the anatomy, physiology, and psychophysics of visual, auditory, olfactory, gustatory, and skin senses. An optional laboratory component, PSY 431, may be taken concurrently.

EXP 4214 (PSY 436) Visual Perception. F, W, S.
Credits: 4; Prereq.: PSY 335 or consent of instructor.
Visual organization of space, time, motion and movement, and search for information. The study of acquisition of information: sensing, attending, perceiving, storing.

EXP 4254 (PSY 437) Human Information Processing. F.
Credits: 4; Prereq.: PSY 334 and STA 320.
An exploration of man as a processor of information. Emphasis on visual and auditory processing, attention, and memory, and skilled performance. Topics dscussed include Information and Systems theories, skilled reading, speech perception, limits of human performance, specialization of the hemispheres of the brain, and the effects of brain damage on processing. An optional laboratory component, PSY 439, may be taken concurrently.

EXP 4604 C (PSY 438) Thinking. S, SS.
Credits: 4; Prereq.: PSY 334 and STA 320.
Examination of the cognitive processes involved in human concept learning, problem solving, decision making and creativity. Consideration of the role of perception, learning and memory, motivation and development in thinking, and individual differences in cognitive skills. An optional laboratory component, PSY 439, may be taken concurrently.

EXP 4934 C (PSY 439) Laboratory Topics in Cognition. F, W, S, SS.
Credits: 1 to 4. Coreq.: PSY 334, 433, 434, 437 or 438.
Contemporary laboratory techniques used in the study of learning, memory, thinking, information processing, and perceptual processes. The course is designed for those planning to pursue graduate studies in psychology and is an optional laboratory component of PSY 334, 433, 434, 437, and PSY 438. May be repeated with change of content up to a maximum of 4 credits.

PPE 4605 (PSY 440) Studies of the Person. F, W, S, SS.
Credits: 5, max 15. Prereq.: STA 320 and consent of instructor.
Seminar designed to examine various topics of current interest in the field of personality development and dynamics. May be repeated with change of content up to a maximum of 15 credits.

PPE 4445 (PSY 441) Personality and Somatic Psychology. F.
Credits: 4; Prereq.: PSY 345, STA 320, STA 321.
A study of various psychophysiological relationships. Emphasis on psychological modulation of physiological responses. Relevant topics are psychological set, hypnosis, biofeedback and some of the techniques of somatic psychology.

PPE 4104 (PSY 442) Introduction to Humanistic Psychology. F, W, S, SS.
Credits: 4; Prereq.: PSY 201.
The contemporary humanistic view of human behavior and experience. Emphasis upon the human potentialities for high level functioning including creativity, self-concept, caring and commitment.

PPE 4055 (PSY 443) Current Theories and Research in Personality. F, W, S, SS.
Credits: 4; Prereq.: STA 320 and consent of instructor.
Issues and problems in description, development and organization of personality.

PPE 4324 C (PSY 444) Approach and Method for Studying Persons. W.
Credits: 5; Prereq.: PSY 201 and consent of instructor.
Emphasis on problems of approach and design. Laboratory training in basic experimental techniques and procedures related to an analysis of human experience.

PPE 4204 (PSY 445) The Self. W, SS.
Credits: 5; Prereq.: PSY 345 or PSY 402.
Origins, developmental organization and change of self in social interaction: methods of study, theory and research.

PPE 4606 (PSY 446) Group and Individual Differences. W.
Credits: 5; Prereq.: PSY 340 or 442, & STA 320.
Intensive study of individual and group differences essential to evaluation of test results and vocational/educational adjustment. Influences of differences in intelligence, age, sex and ethnic and cultural background on behavior.

PSY 4315 (PSY 447) Essentials of Psychological Testing. F.
Credits: 5; Prereq.: PSY 345, STA 320.
A coverage of all types of psychological tests and their usage in clinical, counseling, business, educational, governmental, military, and industrial applications. Attention will be paid to test construction and the use of tests in psychological research.

CLP 4144 (PSY 449) Abnormal Psychology. F,W,S,SS.
Credits: 5; Prereq.: PSY 340 or PSY 345.
The varieties of disordered experience and conduct are studied for their contribution to an understanding of more effective personal and social adjustment. Specific disorders include the neuroses and psychoses as well as psychosomatic and conduct disturbances.

EAB 4509 (PSY 469) Seminar in Motivation. W.
Credits: 4; Prereq.: PSY 320.
The aversive control of behavior (punishment, avoidance, escape, CER) as related to motivational processes.

EAB 4049 (PSY 470) Seminar in Experimental Psychology. F, SS.
Credits: 4; Prereq.: PSY 320 and consent of instructor.
Selected topics in research tactics, experimental studies, and theoretical developments in the area of the experimental analysis of behavior. May be taken up to a maximum of 8 credits with change in content.

PSB 4003 (PSY 471) Advanced Physiological Psychology. S.
Credits: 4. (Ident. with MED 407) Prereq.: PSY 371 or MED 405; Coreq.: PSY 472 (Same as MED 408).
Biological bases of behavior and structural and functional correlates of learning, motivation, and emotion.

PSB 4104 L (PSY 472) Laboratory in Physiological Psychology.
Credits: 1 to 4; (Ident. with MED 480) Prereq.: PSY 371 or MED 405; Coreq.: PSY 471 (Same as MED 407).
An introduction to current techniques used in research in physiological psychology.

CBH 4023 C (PSY 477) Laboratory Topics in Animal Behavior. W.
Credits: 4; Prereq. or Coreq.: PSY 377 or consent of instructor.
Laboratory techniques used in the study of a variety of behavioral patterns in a variety of species.

(PSY 479) Biofeedback. F.
Credits: 4; Prereq.: PSY 201 and either PSY 371 or consent of instructor.
The course surveys research on the organism's ability to control its own physiological activity such as brain electrical activity, heart rate, and blood pressure. Emphasis is on research with humans that has both theoretical and applied relevance. However, the course is not intended to provide instruction on application of biofeedback techniques in the applied setting.

PSY 4039 (PSY 491) Honors in Psychology. F,W, S, SS.
Credits: 3; Prereq.: A 3.0 overall GPA in at least 20 hours of Psychology courses. All foundation (Level II) requirements and meet the other college requirements for Department Honors.
Qualified students participate in a one quarter Honors Seminar and must complete an em-

pirically based research thesis by the end of the third quarter of participation.

SPY 4049 (PSY 492) Advanced General Psychology. F, S.
Credits: 4; Prereq.: 18 quarter hours of psychology and STA 320.
Consideration of the roles and functions of the specializations of Psychology in contemporary society together with the historial sources and methodological techniques associated with these aspects of psychology.

PSY 4913 (PSY 496) Individual Work. F,W,S,SS.
Credits: 1 to 5; Maximum of 12 credits; Prereq.: At least 18 quarter hours of psychology.
Qualified students and the instructor concerned may choose a particular problem for investigation or study from the various areas of experimental psychology. A formal written report of the work is required of the student.

PSY 4970 (PSY 498) Senior Thesis. F. W, S, SS.
Credits: 1 to 6; Combined credits from PSY 399, PSY 498, PSY 490, and PSY 496 shall not exceed 12 credits to count toward the major. Prereq.: 36 hours in Psychology and consent of instructor.
Qualified students write a formal research proposal in order to enroll in the course; carry out individual research under the supervision of a faculty member and submit a formal written report.

GRADUATE COURSES

DEP 5049 (PSY 500) Seminar: Contemporary Issues in Developmental Psychology. S.
Credits: 4; Prereq.: Senior psychology major or consent of instructor and STA 320.

EAB 5055 (PSY 520) Advanced Experimental Analysis of Behavior I. F.
Credits: 4; Prereq.: PSY 320 and STA 320 and consent of instructor.

EAB 5935 (PSY 522) Laboratory Methods in Psychology. W.
Credits: 4; Prereq.: Upper level standing, one of PSY 320, 334, 371, 377.

EAB 5505 (PSY 525) Motivation. W.
Credits: 4; Prereq.: PSY 320 and STA 320 or consent of instructor.

(PSY 548) Measurement of Personal Attributes. W.
Credits: 4; Prereq: STA 320 and PSY 345.

PSB 5445 (PSY 570) Drug Use and Abuse. W, S.
Credits: 4; Prereq.: 10 hours of Psychology and STA 320.

PSB 5115 C (PSY 572) Advanced Laboratory Topics in Physiological Psychology. W.
Credits: 4; Prereq.: PSY 371 or PSY 682, and consent of instructor.

PSB 5935 (PSY 573) Seminar in Physiological Psychology.
Credits: 3 to 5; Prereq.: PSY 371 or MED 505, STA 320.

PSB 5465 (PSY 574) Neurohumors and Behavior. S.
Credits: 4; (Ident. with MED 504); Prereq.: STA 320 and PSY 371.

PSB 5065 (PSY 575) Biology of Human Behavior. W.
Credits: 4; Prereq.: PSY 371 and 5TA 320.

EAB 5436 (PSY 576) Behavioral Pharmacology. S.
Credits: 4; Prereq.: PSY 320 and STA 320.

CBH 5085 (PSY 577) Seminar in Comparative Psychology.
Credits: 4; Prereq.: PSY 377, STA 320.

EXP 5116 (PSY 578) Vision. S.
Credits: 4; (Ident with MED 518); Prereq.: PSY 371 or ZY 574 or equivalent, with consent of instructor and STA 320.

PSB 5325 (PSY 579) Human Physiological Psychology: Psychophysiology. W.
Credits: 4; Prereq.: PSY 371 or equivalent recommended or consent of instructor.

PSB 5505 (PSY 580) Developmental Psychobiology. F.
Credits: 4; Prereq.: PSY 371 and STA 320.

PSY 5605 (PS 594) History of Psychology. F, W, S.
Credits: 5; Prereq.: Twenty quarter hours of psychology and STA 320.

(PSY 604) Special Topics in Developmental Psychology F, W, S, SS.
Credits: 2

DEP 6409 (PSY 605) Seminar: Adult Development and Aging. F.
Credits: 4

DEP 6059 (PSY 607) Seminar: Special Topics in Developmental Psychology.
Credits: 1 to 4. May be repeated with change of content up to a maximum of 16 credits.

(PSY 608) Measurement in Developmental Research.
Credits: 4; Prereq.: Consent of instructor.

DEP 6799 (PSY 609) Seminar: Current Research Methods in Developmental Psychology. F, W, S, SS.
Credits: 3; Prereq.: PSY 685.

SOP 6069 (PSY 611) Advanced Social Psychology I.
Credits: 4; Prereq.: PSY 313, PSY 413, or equivalent.

SOP 6079 (PSY 612) Advanced Social Psychology II.
Credits: 4

(PSY 613) Theories in Social Psychology. W,S.
Credits: 4; Prereq: PSY 413 and STA 320.

SOP 6709 (PSY 616) Seminar: Social Psychology.
Credits: 4

SOP 6229 (PSY 617) Laboratory in Social Psychology I.
Credits: 4

SOP 6239 (PSY 618) Laboratory in Social Psychology II.
Credits: 4

EAB 6056 (PSY 620) Research Tactics in Experimental Analysis of Behavior.
Credits: 4; Prereq: PSY 520 or PSY 683.

EAB 6707 (PSY 621) Applied Behavior Analysis.
Credits: 4

EAB 6937 C (PSY 622) Seminar: Special Topics in Experimental Analysis of Behavior.
Credits: 1 to 5; Prereq.: PSY 683.

EAB 6719 (PSY 623) Seminar: Strategies & Tactics of Human Behavioral Research. F.
Credits: 4; Prereq.: PSY 62

EAB 6708 (PSY 624) Literature in Applied Behavioral Analysis. F.
Credits: 4; Prereq: PSY 520 or 683.

EAB 6118 (PSY 625) Theoretical Foundations of Behavior Analysis. W.
Credits: 4; Prereq: PSY 520 or PSY 683. and permission of instructor.

EAB 6758 (PSY 626) Measurement and Assessment of Behavior. S.
Credits: 4

(PSY 630) Psychoacoustics I.
Credits: 5; (Ident. with SCH 592); Prereq.: SCH 390.

(PSY 631) Cochlear Biophysics.
Credits: 5; (Ident. with SCH 693)

EXP 6717 C (PSY 632) Psychophysics.
Credits: 4; Prereq.: PSY 334, STA 320 or consent of instructor.

PSY 6508 (PSY 633) Quantitative Modeling in Psychology.
Credits: 4; Prereq.: Permission of instructor.

EXP 6527 C (PSY 634) Retention and Forgetting.
Credits: 4; Prereq.: PSY 434 and STA 320.

EXP 6209 (PSY 635) Seminar: Perception.
Credits: 4

EXP 6519 (PSY 636) Seminar: Verbal Learning & Verbal Behavior. F.
Credits: 2 to 5; Prereq.: PSY 434, PSY 535, SCH 596 or permission of instructor.

EXP 6939 (PSY 637) Seminar: Current Issues in Cognition and Perception.
Credits: 2 to 15; Prereq.: Consent of Instructor.

EXP 6609 (PSY 638) Seminar: Cognition. S.
Credits: 2 to 5; max. of 15. Prereq.: PSY 539 or permission of instructor.

PSY 6939 (PSY 639) Seminar: The Teaching of Psychology. F, W, S, SS.
Credits: 1 to 5; Prereq.: Major status and consent of instructor.

PPE 6059 (PSY 640) Seminar in Personality.
Credits: 4; Prereq.: 549 or PSY 684 or equivalent.

PPE 6307 (PSY 644) Research Methods in Personality I. W.
Credits: 4; Prereq.: PSY 684 or consent of instructor.

PPE 6308 (PSY 645) Research Methods in Personality II.S.
Credits: 4; Prereq.: PSY 684 or consent of instructor.

PSY 6268 (PSY 646) Advanced Topics in Factor Analysis.
Credits: 4; Prereq.: EDF 664, STA 623, or permission of instructor.

PPE 6667 (PSY 647) Psychology of Women.
Credits: 4

PSY 6328 (PSY 648) Test Construction.
Credits: 4; Prereq.: PSY 548 or equivalent.

PPE 6209 (PSY 649) Seminar on the Self. F, S.
Credits: 4

CLP 6169 (PSY 655) Seminar: Psychology of Deviant Behavior.
Credits: 4; Maximum 8.

PCO 6939 (PSY 661) Seminar: Current Topics in Counseling Psychology.
Credits: 1 to 5; Prereq.: PSY 684, EDC 614 or consent of instructor.

(PSY 662) Research Issues in Counseling Psychology.
Credits: 4

PCO 6316 (PSY 663) Evaluation in Intelligence.
Credits: 4; Prereq.: Consent of Instructor.

(PSY 664) Evaluation in Personality.
Credits: 4; Prereq.: PSY 663 or consent of instructor.

(PSY 665) Personal Counseling.
Credits: 4.

PCO 6717 (PSY 667) Sexual Identity in the Counseling Process.
Credits: 4; Prereq.: PSY 684 or consent of instructor.

PSB 6607 (PSY 670) Research Methods in the Sensory Systems. (Ident. with MED 627 or ZY 637).
Credits: 4; May be repeated up to 8 credits for participation in extended experimental studies and/or learning of technical skills of specific sensory specialty. Prereq.: MED 636 or PSY 678 or ZY 636.

PSB 6609 (PSY 671) Seminar: Current Topics in Sensory Processes. W, SS.
Credits: 1 to 5; Prereq.: Consent of instructor.

PSB 6086 (PSY 672) Advanced Physchophysiology. W.
Credits: 4; Prereq.: PSY 579 or consent of instructor.

PSB 6087 (PSY 673) Advanced Physiological Psychology.
Credits: 4; May be repeated with change of content up to a maximum of 8 credits.

PSB 6067 (PSY 674) Human Brain Function.
Credits: 4; Prereq.: PSY 682 or consent of instructor.

EXP 6128 (PSY 675) Psychophysiology of Hearing.
Credits: 5; (Ident. with SCH 692)

EXP 6109 (PSY 676) Seminar in Sensory Processes (Ident with Med 636 or ZY 636).
Credits: 1††

CBH 6056 (PSY 677) Comparative Psychology.
Credits: 4; max. of 12. Prereq.: PSY 682 or consent of Instructor.

EXP 6108 (PSY 678) A Survey of Sensory Systems. (Ident with MED 636 or ZY 636).
Credits: 4; Prereq.: ZY 574 or MED 623 or PSY 678.

EXP 6119 (PSY 679) Seminar on Vision.
Credits: 4

SOP 6099 (PSY 681) Literature in Social Psychology.
Credits: 4

PSB 6076 (PSY 682) Literature in Physiological and Comparative Psychology.
Credits: 4

EAB 6098 (PSY 683) Literature in Experimental and Applied Behavioral Analysis.
Credits: 4

PPE 6098 (PSY 684) Literature in Personality.
Credits: 4

DEP 6099 (PSY 685) Literature in Developmental Psychology.
Credits: 4

EXP 6098 (PSY 686) Literature in Cognition and Perception.
Credits: 4

PSY 6698 (PSY 694) Contemporary Systems in Psychology.
Credits: 4; Prereq.: PSY 594.

PSY 6917 (PSY 696) Individual Work.
Credits: 1 to 5

(PSY 697) Supervised Research.
Credits: 1 to 5††

PSY 6947 (PSY 698) Supervised Teaching.
Credits: 1 to 5††

PSY 6971 (PSY 699) Master's Research.
Credits: 1 to 15††

††Grading is on a S-U basis only.

DEP 7069 (PSY 700) Seminar in Developmental Psychology; Cognitive Processes.
Credits: 4; Prereq.: PSY 681, PSY 682, PSY 683, PSY 684, PSY 685, PSY 686, STA 202.

DEP 7118 (PSY 704) Infancy and Early Childhood. S.
Credits: 4

DEP 7608 (PSY 706) Theories of Child Development. W.
Credits: 4

SOP 7319 (PSY 710) Research Methods in Social Psychology.
Credits: 4; Prereq.: PSY 618.

SOP 7319 (PSY 711) Seminar: Research in Social Psychology. F, W S, SS.
Credits: 1 to 5; Prereq.: Consent of instructor.

SOP 7318 (PSY 718) Multidimensional Scaling for Market and Societal Analysis. W.
Credits: 5; (Ident. with MKG 774), Prereq.: STA 603 or equivalent, and fundamentals of matrix algebra.

SOP 7339 (PSY 719) Social Psychological Research in the Community.
Credits: 4; Prereq.: PSY 616 and consent of instructor.

EAB 7089 (PSY 720) Advanced Seminar: Experimental Analysis of Behavior.
Credits: 4; Prereq.: PSY 520 or PSY 683 and permission of instructor.

EAB 7729 C (PSY 721) Advanced Seminar: Precise Behavioral Management.
Credits: 4

(PSY 722) Seminar in Behavioral Medicine.
Credits: 4; Prereq.: 6 hours of human biology and permission of instructor.

(PSY 723) Advanced Seminar in Behavioral Medicine.
Credits: 4; Prereq.: PSY 722, 6 hours of human biology and permission of instructor.

EAB 7888 (PSY 728) Experimental Psychopathology.
Credits: 4; Prereq.: PSY 520 or PSY 683 and permission of instructor.

EAB 7799 (PSY 729) Advanced Seminar: Applied Analysis of Behavior.
Credits: 4; Maximum of 16 credits with change of content.

(PSY 730) Psychoacoustics II.
Credits: 5; (Ident. with SCH 691); Prereq.: SCH 592.

(PSY 733) Seminar in Audition.
Credits: 3; (Ident. with SCH 790)

EXP 7689 (PSY 737) Research Methods in Cognition and Perception. F, W, S, SS.
Credits: 2; Prereq.: Consent of instructor.

PPE 7288 (PSY 740) Advanced Theories in Personality. W.
Credits: 4

PPE 7309 (PSY 745) Advanced Research Seminar in Personality. F.
Credits: 1 to 5

PPE 7947 (PSY 749) Field Work in Personality Research. W.
Credits: 4

(PSY 758) Practicum in Counseling Psychology. F, W, S, SS.
Credits: 5. Prereq.: PSY 665 or equivalent. Written application must be made to the practicum coordinator at least six weeks in advance of registration. May be repeated with change of content up to a maximum of 20 credits.

(PSY 768) Internship in Counseling Psychology. F, W, S, SS.
Credits: 5; max. of 20. Prereq.: 14 hours of PSY 758 and written application to the internship coordinator at least six weeks before registration. May be repeated with change of content up to a maximum of 20 credits.

PSY 7719 (PSY 770) Seminar: Neural Mechanisms of Ingestion and Energy Regulation.
.Credits: 2 to 4

PSB 7118 (PSY 772) Current Research Methods in Physiological Psychology. W, S.
Credits: 4

PSB 7249 (PSY 773) Seminar in Neural Mechanisms and Behavior.
Credits: 4; Prereq.: PSY 673.

(PSY 774) Advanced Seminar in Higher Brain Function.
Credits: 4

PSB 7248 (PSY 775) Neurobehavioral Relations. F, S.
Credits: 4; Prereq.: MED 741 or consent of instructor.

PSB 7817 (PSY 776) Information Storage: A Neurobiological Approach. W, S.
Credits: 4; (Ident. with MED 713) Prereq: MED 741 or consent of instructor.

CBH 7088 (PSY 777) Advanced Seminar in Comparative Psychology. F, S.
Credits: 3; Prereq.: PSY 677.

PSB 7079 (PSY 779) Seminar in Psychophysiology. F.
Credits: 1 to 4; Prereq.: PSY 579 or consent of instructor.

PSY 7980 (PSY 799) Doctoral Research. F, W, S, SS.
Credits: 1 to 15††

PUBLIC RELATIONS
College of Journalism and Communications

INSTRUCTIONAL STAFF 1976-77
Terhune, J.L., *Chairman;* Adams, W.W.; Anderson, J.W.; Butler, G.A.; Detweiler, J.S.; Hammond, F.A.; Kendall, R.L.; Rathbun, E.F.; Rush, R.R.; Wellborn, C.G.

The Public Relations program is designed primarily for those planning professional careers in corporate, business, private, and government fields, as well as in agency work. These courses may be taken for elective credit by students in all Upper Division units of the University. Students who are interested in major work in other communications fields are also referred to course offerings under Advertising, Broadcasting and Journalism.

PUR 3101 (PR 340) Editing and Graphics. F, W, S, SS.
Credits: 4; Prereq.: JM 301.
Fundamental instruction and practice in essentials of editing, with special emphasis on publications in support of corporate public relations programs. Included are typography, copyreading, headline writing, design and basic production techniques for tabloid format publications.

(PR 402) Public Relations in Criminal Justice. W.
Credits: 3; Prereq.: PR or CJ background or permission of the instructor.
Public relations activities in the field of criminal justice, including public attitudes, public awareness campaigns, community relations, volunteer coordination, and working with the news media.

PUR 4000 (PR 414) Public Relations. F,W, S, SS.
Credits: 4; Prereq.: JM 201 or permission of instructor.
The relationship between journalism media and the public, and the principles, methods and means of influencing the public. Public Relations programs will be discussed.

PUR 4001 (PR 415) Advanced Public Relations. F, W, S, SS.
Credits: 4; Prereq.: Senior standing and PR 414.
Analysis of modern techniques of disseminating industrial, business, educational and associational news to the appropriate publics. Special publications, broadcasts, special events, planning and budgeting. Emphasis on current professional practice and public relations campaigns.

PUR 4103 (PR 425) Business and Technical Communication. F, W, S, SS.
Credits: 5; Prereq.: PR 340, or JM 403, or permission of instructor.
Writing, editing and production of material in the areas of trade, business, industrial and technical press, with special attention given to style, form and production techniques of magazine format publications.

PUR 4931c (PR 431) Individual Problems in Public Relations (Honors). F, W, S.
Credits: 1 to 5; Prereq.: At least 15 hours of professional courses in the Upper Division, good standing in the Honors Program, approval of the Honors Committee and the approval of the Dean.
The student and the instructor concerned will choose a problem or project which is consonant with the objectives of the Honors Program.

(PR 461) Seminar; Ethics and Problems in Public Relations. F, W, S, SS.
Credits: 4; Prereq.: Open only to Seniors in the public relations sequence near graduation, or on approval of their instructor.
Analysis and investigations of trends, principles, policies, and ethics, of the most effective and enlightened current public relations practice.

PUR 4932 (PR 490) Special Study in Public Relations, F, W, S.
Credits: 1 to 5; Prereq.: Open only to Seniors and with permission of instructor.
Variable content, providing opportunity for advanced study in the principles, processes and effects of Public Relations. (May be repeated once for a total of 6 quarter hours.)

PUR 4930 (PR 496) Individual Problems in Public Relations. F, W, S, SS.
Credits: 1 to 5; Prereq.: At least 15 hours of professional courses and approval of the Dean.
Students and the instructor concerned will choose a problem or project which will give the student actual experience in his major field.

PUR 4949 (PR 499) Co-op Work Experience. F, W, S, SS.
Credits: 1 to 5. Prereq.: At least 15 hours of professional courses must have been completed. Must have academic adviser, department and college approval to receive credit.
Students and instructor concerned will select an appropriate work area related to the field of public relations or an appropriate communications area where the student may gain work experience and/or on-the-job training.

GRADUATE COURSES
Students interested in graduate work in public relations are referred to course offerings under Communication.

REAL ESTATE AND URBAN ANALYSIS
College of Business Administration

INSTRUCTIONAL STAFF 1976-77
Smith, H.C., Acting Chairman; Archer, W.R.; Curtis, C.C.; Gaitanis, L.A.; Kelting, R.H.

Courses numbered 300 or higher are open only to students with Junior standing or above. Note, however, the specific prerequisites for certain courses. Housing and Home Ownership, REE 3720 (RE 340); 4 credits, is offered by correspondence only.

REE 3042 (RE 350) Real Estate Analysis. F, W, S, SS.
Credits: 5.
Principles of real estate decision making within the context of our economic, social, legal, and political-governmental systems.

REE 4434 (RE 440) Real Estate Law. W, SS.
Credits: 4; Prereq.: RE 350 or consent of the instructor.
Legal aspects of real property ownership, development, transfer, and brokerage.

REE (RE 450) Real Estate Valuation. F, W.
Credits: 4; Prereq.: RE 350
Approaches and methods of property valuation. Comparable sales analysis, cost-depreciation analysis, and income capitalization are emphasized. A professional appraisal report is required.

REE 4304 (RE 460) Real Estate Investment. W, S.
Credits: 4; Prereq.: RE 450.
Analysis of real estate investments, using modern tools such as the computer. Current issues as well as analytical methods are presented. Includes financing and income tax considerations.

REE 4704 (RE 470) Urban Land Use Analysis. F, S.
Credits: 4; Prereq.: RE 350
Basic operations of the real estate market in land allocation, as well as theories of city growth and structure. The basic economic principles developed are applied to land use decision making in the private and governmental sectors.

REE 4204 (RE 480) Real Estate Financial Analysis. S, SS.
Credits: 4; Prereq.: RE 350
Real estate financial analysis as applied to various types of property. Includes the underwriting process, sources of funds, portfolio problems, and governmental programs. Money and mortgage market analysis and the use of modern creative finance are emphasized.

REE 4912 (RE 496) Independent Research. F, W, S, SS.
Credits: 1 to 5. Prereq.: Senior standing and previous work in the area selected for research.
Admission is by consent of instructor with approval of the Department Chairman. A written report or reports will be required.

REE 4934 (RE 498) Special Topics. F, W, S, SS.
Credits: 1 to 5; Prereq.: Permission of department.
Course providing an opportunity for study in depth of topics not offered in other courses and of topics of special current significance. May be repeated with change of content up to a maximum of 10 credits.

GRADUATE COURSES

REE 6609 (RE 640) Seminar in Land Use Controls.
Credits: 4.

REE 6305 (RE 650) Seminar in Real Estate Valuation.
Credits: 4.

REE 6395 (RE 660) Seminar in Real Estate Investment and Development.
Credits: 4.

REE 6756 (RE 670) Seminar in Land Use Analysis.
Credits: 4

REE 6286 (RE 680) Seminar in Real Estate Financial Analysis.
Credits: 4.

REE 6936 (RE 690) Seminar in Housing Analysis.
Credits: 4.

REE 6971 (RE 691) Real Estate Research and Reports.
Credits: 2; Prereq.: BA 690.

REE 6907 (RE 696) Individual Work in Real Estate.
Credits: 1 to 5.

REE 6917 (RE 697) Supervised Research.
Credits: 1 to 5††.

REE 6947 (RE 698) Supervised Teaching.
Credits: 1 to 5††.

REE 6972 (RE 699) Master's Research.
Credits: 1 to 15††.

REE 7920 (RE 790) Real Estate Research Workshop.
Credits: 4

REE 7980 (RE 799) Doctoral Research.
Credits: 1 to 15††

REHABILITATION COUNSELING
College of Health Related Professions

INSTRUCTIONAL STAFF 1976-77
Bozarth, J.D., Chairman; Joiner, J.G.; Muthard, J.E.; Saxon, J.P.

GRADUATE COURSES

EGC 5064 (RC 500) An Introduction to Rehabilitation Counseling. F, S.
Credits: 5

EGC 5163 (RC 501) Psychological and Sociological Aspects of Rehabilitation. F, S.
Credits: 5

EGC 6318 (RC 602) Occupational Analysis and Placement Aspects of Rehabilitation Counseling. F, S.
Credits: 5

EGC 6376 (RC 603) Medical and Related Aspects of Rehabilitation Counseling. W.
Credits: 5

EGC 6493 (RC 604) Rehabilitation Evaluation and Counseling with the Disabled. W, SS.
Credits: 5

EGC 6934 (RC 605) Seminar in Rehabilitation Counseling with the Disabled Disadvantaged.
Credits: 5

EGC 6675 (RC 607) Supervisory Techniques in Rehabilitation Counseling.
Credits: 4

EGC 6767 (RC 644) Research in Vocational Rehabilitation. W, SS.
Credits: 4

EGC 6850 (RC 660) Rehabilitation Client Services Practicum. F, W, S, SS.
Credits: 1 to 4

††Grading is on a S-U basis only.

EGC 6851 (RC 661) Rehabilitation Counseling Practicum. F, W, S, SS.
Credits: 1 to 6

EGC 6885 (RC 680) Internship in Rehabilitation Counseling.
Credits: 10††

EGC 6905 (RC 696) Individual Work. F, W, S, SS.
Credits: 3 to 6

EGC 6915 (RC 697) Supervised Research. F, W, S, SS.
Credits: 1 to 5††

EGC 6940 (RC 698) Supervised Teaching. F, W, S, SS.
Credits: 1 to 5††

RELIGION
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77
Hill, S.S., *Chairman;* Carnell, C.S.; Creel, A.B.; Gannon, M.V.; Hiers, R.H.; Isenberg, S.R.; Mesch, B.; Owen, D.E.; Scott, R.T.; Scudder, D.L.; Stahmer, H.M.; Thursby, G.R.

Students electing courses in Religion are encouraged to note the following areas of interest in the Department, and the suggested beginning-level courses in each:

The Meaning and Nature of Religion, RN 251
Eastern Religion, RN 321, RN 322
Biblical Studies, RN 340, RN 341, RN 343, RN 344
Jewish Studies, RN 330
Religious Thought, RN 362, RN 364
History of Western Religion, RN 323, RN 351
Religion in America, RN 326
Religious Ethics, RN 371

Students majoring in Religion are required to take a minimum of 10 courses, constituting at least 40 hours, in Religion or approved cognate areas. The major's program must include:

a. One course in each of any three of the Western fields of *Biblical Studies, History of Western Religion, Religious Thought,* and *Study of Religious Behavior.*

Biblical Studies courses are: RN 340, RN 341, RN 343, RN 344, RN 441, RN 443.

History of Western Religion courses are: RN 323, RN 330, RN 351, RN 352, RN 353, RN 357, RN 358, RN 456, RN 458, RN 454.

Religious Thought courses are: RN 330, RN 347, RN 362, RN 364, RN 365, RN 371, RN 375, RN 378, RN 380, RN 382, RN 383, RN 405, RN 450, RN 457, RN 458, RN 464, RN 465, RN 478, RN 482.

Study of Religious Behavior courses are: RN 326, RN 330, RN 370, RN 373, RN 374, RN 378, RN 425, RN 454, RN 456, RN 473, RN 478.

Other courses: RN 251, RN 401, RN 487 will be classified as Eastern or Western, depending on their content in any given offering of the course.

b. Two courses in the field of *Eastern Religion.*

Eastern Religion courses are: RN 321, RN 322, RN 345, RN 346, RN 381, RN 385, RN 386, RN 403, RN 421, RN 422, RN 426.

c. A concentration composed of at least three additional courses in one field.

The student is invited to formulate his own major program, in cooperation with and subject to approval by the departmental coordinator. The coordinator will direct the student to the faculty member(s) best suited to guiding each person's own interest. It is recommended that all majors take RN 487 in the Senior year. Religion courses taken in another institution may count toward major credit, subject to approval by a departmental adviser.

Certification requirements for secondary school teaching in Religion may be met through a major in English and a minor in Religion. See the announcement in the College of Education section of this catalog, or consult the Department.

Graduate minors should be worked out with the respective department advisers.

Candidates for honors in Religion need to fulfill two requirements in addition to those required of all majors. (1) At least a 3.2 grade point average. (2) Completion of RN 487 with a grade of B or better.

††Grading is on a S-U basis only.

REL 2010 (RN 251) Introduction to the Study of Religion. F,
Credits: 4
The ethical, mystical, doctrinal, ritual, and other basic dimensions of the religious life of man, and how to understand them and their relation in specific cases in Asia, Europe, and America.

REL 3340 (RN 321) Religions of South Asia. F, S.
Credits: 4
Religious traditions of the Indian subcontinent.

REL 3330 (RN 322) Religions of East Asia. F, S, S, SS.
Credits: 4
Buddhism and Chinese-Japanese Religious Thought.

REL 3321 (RN 323) Religions of the West. F, W, S.
Credits: 4
Judaism and Christianity.

REL 3322 (RN 326) Patterns of American Religion. F, S.
Credits: 4
A look at the major groupings of religion in the United States, how they differ, what they have in common, the various dimensions of each in their interaction, and their roles in the society of the American people.

REL 3600 (RN 330) Introduction to the Study of Judaism. F.
Credits: 4
A basic introduction to the history, thought, and literature of the Jewish people.

REL 3202 (RN 340) Survey of Biblical History and Religion. F,
Credits: 4
Major events in the Biblical period, and basic themes in the Biblical faith.

REL 3210 (RN 341) Hebrew Scriptures
Credits: 5
The history, literature and beliefs of the Israelites as reflected in the Biblical text, in the light of modern scholarship.

REL 3244 (RN 343) New Testament 1. F, W, SS.
Credits: 3
The Historical Jesus based on the first three Gospels.

REL 3245 (RN 344) New Testament 2. W.
Credits: 3
The life and thought of Paul together with the later writings of the Christian community.

REL 3341 (RN 345) South Asian Scriptures.
Credits: 4
A close study of one or more of the major textual sources for religious life in India and South Asia. For example, the classical *Upanishads* or the *Bhagavad Gita.* Previous study of South Asian religion or civilization is recommended. May be repeated with change of content up to a maximum of 8 credits.

REL 3331 (RN 346) East Asian Scriptures.
Credits: 4
A close study of one or more of the major textual sources for religious life in China and Japan. For example, the *Tao Teh Ching, the Analects of Confucius,* or the *Diamond* and the *Heart Sutra.* Previous study of East Asian religion or civilization is recommended. May be repeated with change of content up to a maximum of 8 credits.

REL 3630 (RN 347) Jewish Literature. S.
Credits: 4; (Ident. with EH 347.)
A variable content course in aspects of the Jewish literary experience, from the Biblical narrative and Talmudic tales to Yiddish literature and the American Jewish novel.

REL 3611 (RN 351) History of the Jewish People 1: 450 B.C.E. to 1800. F.
Credits: 4
A survey of Jewish history from Ezra and the canonization of the Bible to the Emancipation and Enlightenment.

REL 3612 (RN 352) History of the Jewish People 2: 1800 to Present. W.
Credits: 4
An investigation of the fundamental movements and events in modern Jewish history.

REL 3500 (RN 353) History of Christianity. S, SS.
Credits: 4
A survey of history of Christianity from ancient to modern times, with emphasis on pivotal personalities.

REL 3121 (RN 357) The Religious Element in the American Tradition, 1565-1869. F.
Credits: 4
A presentation of the historical development of major religious groups in the United States from the colonial period to the Civil War.

REL 3122 (RN 358) The Religious Element in the American Tradition, 1860 to Date. S.
Credits: 4
The history of major theological and institutional changes among Protestants, Catholics, Jews from the Civil War to date.

REL 3440 (RN 362) Religion and the Modern Mind. S.
Credits: 4
An examination of the modern outlook, focusing upon conceptual commitments associated with present cultural styles, with attention to certain critical issues for religion.

REL 3420 (RN 364) Contemporary Religious Thought, F, W, SS.
Credits: 4
An attempt to discover what contemporary thinkers are saying about religion and the problems of modern life.

REL 3116 (RN 365) Myth in Film and Literature. F, S.
Credits: 5; Prereq.: two courses in humanities.
The theological assumptions and the means employed by recent artists whose ultimate concerns take on religious import. Emphasis on film media.

ANT 3241 (RN 370) Anthropology of Religion. S.
Credits: 5; (Ident. with APY 370).
Cross cultural survey of beliefs and practices dealing with the supernatural. Magic and Religion. Conceptualization of the supernatural. Sacred specialists, their functions and social position. Theories of comparative religion in the light of primitive data.

REL 3172 (RN 371) Religion and Ethics. F, S.
Credits: 4
Belief and value systems and their implications for understanding current ethical problems.

REL 3140 (RN 373) Religion and Society. W.
Credits: 5
The interaction of religion and social institutions, concerning the ways religious groups influence and are influenced by the sociocultural environment.

REL 3130 (RN 374) Religion in Contemporary American Culture. F.
Credits: 4
Major religious movements and trends in the United States today, as seen through beliefs, practices, memberships, and relation to the life of the national culture.

REL 3492 (RN 375) Religion and Communism. F, W. S.
Credits: 3
An analysis of the character and challenge of Communism to the religions of the world. An exploration of the ideological conflict between dialectical materialism and the non-material interpretations of reality.

REL 3158 (RN 378) Psychological Dimensions of Religious Experience. F.S.
Credits: 4
Use of selected readings and clinical data for examination of crisis, conflict, and the sense of transcendence in man's search for meaning.

PHI 3700 (RN 380) Philosophy of Religion. W.
Credits: 5 (Ident. with PPY 380).
A philosophical examination of religious thought and experience.

REL 3342 (RN 381) Philosophies of India. F.
Credits: 4
Aspects of representative systems of thought, with attention to their relation to Indian religious traditions and with an examination of their claims and forms of argument.

REL 3620 (RN 382) Philosophies of Judaism. F.
Credits: 4; (Ident. with PPY 382).
An investigation of selected figures and themes in the Jewish philosophical tradition both classical and modern. Various approaches both mystical and rational will be considered. Repeatable with change of content to a maximum of 12 credits.

REL 3695 (RN 383) Jewish Mysticism, Ancient to Modern.
Credits: 4
Mysticism in Judaism in Biblical, Rabbinic, Medieval and Modern Periods.

REL 4304 (RN 401) Seminar in Comparative Religion. S, W.
Credits: 5
Major issues or leading themes which are relevant to the study of more than one religious tradition; e.g., the relation among religions, mysticism, myth and symbol. May be repeated with change of content up to a maximum of 15 credits.

REL 4390 (RN 403) Special Topics in Asian Religions. F, W.
Credits: 5; Prereq.: permission of the instructor.
May be repeated with change of content up to a maximum of 15 credits.

REL 4460 (RN 405) Special Topics in Religious Thought. W.
Credits: 4
An examination of the problems of man, God, evil, freedom, values and immortality. Attention is given to the relations of common sense, science, philosophy and religion.

REL 4520 (RN 407) Medieval Christian Thought.
Credits: 4
A study of the philosophical theologians from Anselm to William of Ockham, emphasis on Thomas Aquinas.

REL 4347 (RN 421) Hinduism Seminar.
Credits: 5; Prereq.: RN 321 or RN 345 or consent of instructor.
May be repeated with change of content up to a maximum of 15 credits.

REL 4333 (RN 422) Buddhism Seminar.
Credits: 5; Prereq.: RN 322 or RN 346 or consent of instructor.
May be repeated with change of content up to a maximum of 15 credits.

SOC 4211 (RN 425) Sociology of Religion. W.
Credits: 4; (Ident. with Sy 425) Prereq.: SY 201.
The sociological perspective on religions: ideologies and rituals. Social aspects of the religious and religious aspects of the social. Organized religions and religions "outside the sacred walls."

REL 4336 (RN 426) Hindu Tradition in the Modern World. S.
Credits: 5; Prereq.: RN 321 or permission of the instructor.
Studies in the reformulation of tradition, e.g., the role of Gandhi, the meaning of *dharma* in the modern world; the response to the impact of secularization, the relation of Hinduism to other religions, etc.

REL 4294 (RN 441) Special Topics in Hebrew Scriptures.
Credits: 5; Prereq.: RN 341 or permission of the instructor.
Advanced study of selected topics in Hebrew Scriptures. May be repeated with change of content up to a maximum of 15 credits.

REL 4291 (RN 443) Special Studies in New Testament. S.
Credits: 5; Prereq.: RN 343 or 344 or permission of the instructor.
May be repeated with a change of content up to a maximum of 15 credits.

REL 4462 (RN 450) Religious Interpretations of History. S.
Credits: 4; Prereq.: 12 hours of Upper Division Humanities including History.
Recent views of Northrop, Toynbee, Sorokin, and Niebuhr analyzed in the light of Asiatic and other Western conceptions.

REL 4134 (RN 454) Religion in Southern Culture. S.
Credits: 4; Prereq.: RN 323 or 326, or work in southern history.
Development of religious life in the South through its history, with particular reference to its interaction with regional culture.

REL 4143 (RN 456) Modern Western Religious Movements.
Credits: 4; Prereq.: RN 323 or 326, or consent of the instructor.
Interaction among belief, institution, and social role in selected major religious cultures in Europe and the Western Hemisphere.

REL 4142 (RN 457) Seminar in Theology and Contemporary Literature. W.
Credits: 5; Prereq.: RN 364 or 365 or permission of the instructor.
Selected topics in fiction, poetry, and drama studies from the theology-of-culture standpoint; the values and meanings implicit and affirmed in 20th century literature.

REL 4120 (RN 458) Cultural and Intellectual History of American Religion. W.
Credits: 4
Theological, literary, architectural, and artistic contributions of major religious groups to American life, colonial period to date.

REL 4494 (RN 464) Images of Man in the Western Tradition: Historical Roots. F.
Credits: 4
Important literary sources for Western man's self-understanding. Hellenic, Roman, Hebraic and Medieval statements will be investigated.

REL 4495 (RN 465) Images of Man in the Western Tradition: Modern Expressions. W.
Credits: 4
Important statements of Western self-understanding like those of Descartes, Darwin, and Kafka associated with the contemporary imagination.

REL 4177 (RN 471) Special Topics in Religion and Ethics. W.
Credits: 4
May be repeated with change of content up to a maximum of 12 credits.

REL 4144 (RN 473) Special Topics in Religion and Society. F.
Credits: 4; Prereq.: RN 373, 425, or permission of instructor.

REL 4156 (RN 478) Personality Theory and Religious Concepts of Man. W.
Credits: 4; Prereq.: consent of the instructor.
Critical study of methods relating the work of such psychologists as Freud and Rogers to religious thinkers like Tillich and Niebuhr with respect to man's experience of limitation, anxiety, and other persons.

REL 4690 (RN 482) Seminar in Jewish Studies. S.
Credits: 5
Selected figures and topics in the history of Jewish thought. Repeatable with change of content to a maximum of 15 credits.

REL 4933 (RN 487) Senior Seminar in Religion. W.
Credits: 4; Prereq.: Junior or Senior standing and permission of department adviser.
Examination of different approaches to the study of Religion.

REL 4905 (RN 496) Individual Work. F,W,S,SS.
Credits: 1 to 5; Prereq: 12 hours of religion or consent of department.
Majors or other advanced undergraduates who wish to supplement regular couse work by individual studies under guidance. May be repeated with change of content up to a maximum of 15 credits.

SOCIOLOGY
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77
Leslie, G.R., Chair; Agresti, B.; Beeghley, L.; Berardo, F.M.; Bock, E.W.; Frazier, C.E.; Gorman, B.L.; Henderson, G.G.; Henderson, R.D.; Henretta, J.C.; Keller, O.J.; LaGreca, A.J.; Mathis, B.; McCoy, T.L.; McKinney, T.; Mendenhall, W.R.; Rambo, P.B.; Richards, P.; Robbins, C.L.; Sanders, W.B.; Schwartz, M.; Streib, G.F.; Thomas, C.O.; Vandiver, J.S.; Vera, H.O.; Warheit, G.J.

Sociology majors are required to take SOC 2000 (SY 201) , STA 3013 (STA 310) and two of the following three courses: SOC 4640 (SY403), SOC 4001 (SY 404) and SOC 4500 (SY 442). All three of these courses are recommended for students who intend to take graduate work in Sociology. Students who are considering Sociology as a major should contact a departmental adviser in Peabody 309 soon after enrollment in the University.

A sociology major requires at least 36 total hours of course work in sociology. At least 26 of these hours must be in courses numbered 3000 (300) or higher.

HONORS IN SOCIOLOGY

Sociology majors may earn departmental honors two ways: (1) by completing (with a grade of B or higher) the 3 course sequence of SOC 4931 (SY 485) (Departmental Honors) and attaining an upper division and a sociology grade-point average of 3.3, or (2) by completing all work in sociology

with an average of 3.8 and an overall upper division average of 3.3.

Eligibility for the SOC 4931 (SY 485) sequence is limited to students with 30 hours of upper division credit, at least 16 hours in sociology, and either a 3.0 overall upper division average, a 3.5 sociology average, or faculty recommendation. Interested students must make application to the sociology department. Application materials and information are available from the sociology advisers. Sociology majors attaining a 3.8 in all sociology work taken and a 3.3 in all upper division work are granted departmental honors without taking the SOC 4931 (SY 485) sequence.

Honors sequence work may consist of seminars, colloquia, group and individual research, and individual work on elected topics in sociology. Seminars and colloquia involve full student participation in the exploration of important themes in sociology of interest to the students in the program.

SOC 2000 (SY 201) Principles of Sociology. F, W, S, SS.
Credits: 4
Introduction to sociology as a social science, and analysis of American society. Culture, socialization, deviance, bureaucracy, population, urbanization, social stratification, and minorities.

SOC 2020 (SY 202) Social Problems. F, W, S, SS.
Credits: 4
The development, analysis, and treatment of social problems. Crime, poverty, prejudice and discrimination, pollution and environmental despoilation, drug abuse, mental illness, and others. Special attention to factors in U.S. society tht cause social problems.

MAF 2200 (SY 230) Marriage and the Family. F, W, S, SS.
Credits: 4
Development of masculine and feminine roles. Recent changes in premarital interaction: dating, sexual involvement, coed dorm living, living together. Marital adjustment and parenthood. Alternative life styles, including group marriage, communal living, and open marriage.

SOW 3001 (SY 311) The Field of Social Work.
Credits: 4. Prereq.: SOC 2000 (SY 201).
Factors influencing the growth and development of social work. Application of sociological principles to social work activities. Field visits to welfare agencies.

SOW 3033 (SY 312) Methods in Social Work.
Credits: 4; Prereq.: SOW 3001 (SY 311).
Methods relating to social case work, social group work, social administration and social research. Supervised field work.

SOC 3300 (SY 321) Community Growth and Change. F.
Credits: 4; Prereq.: SOC 2000 (SY 201).
Analysis of community power, community change and alternative community structures. Historical influences and implications for the future.

SOC 3022 (SY 322) Poverty. F,S.
Credits: 4; Prereq.: SOC 2000 (SY 201).
The social, cultural, economic, political, and psychological implications of being poor. Sources of poverty in the structure and operation of society: consequences of poverty for society. Current and feasible policies for easing the problem. Basically, a survey of the contemporary United States, but with references to the U.S. past and to other nations both developed and undeveloped.

SOC 3310 (SY 350) Urban Sociology. F,S.
Credits: 4; Prereq.: SOC 2000 (SY 201) or consent of department.
The development of cities, and their spatial and social structure. Critical problems and solutions. Integration of people in the social setting. Social implications of city planning.

SOC 3320 (SY 355) Rural Sociology. W.
Credits: 4; Prereq.: SOC 2000 (SY 201) or consent of department.
The organization of rural societies and rural institutions. Modernization and social change. Special attention to Third World nations.

SOC 3330 (SY 360) Latin American Societies. F.
Credits: 4; Prereq.: SOC 2000 (SY 201).
Latin American culture and social structure. Historic, geographic, economic, social, and population characteristics of Latin American nations. Spanish, Portuguese, English, and American exploitation of Latin America.

SOC 3830 (SY 380) Society and the Individual. F, W, S, SS.
Credits: 4; Prereq.: SOC 2000 (SY 201)
Relation of the individual to his social environment with special reference to person perception, self formation, self disclosure, attitude formation and change, and group structure and processes. Social forces that shape the lives of individuals, and how individuals adjust to modern society.

SOC 3745 (SY 391) Minorities in American Society, F,S, SS.
Credits: 4; Prereq.: SOC 2000 (SY 201).
Sociological analysis of the structure, social processes, and efforts to effect change, of racial, ethnic, and religious minorities.

SOC 4640 (SY 403) Development of Sociological Thought. F,S.
Credits: 4; Prereq.: 8 hours of sociology.
Comparative study of the major ideas of the principal contributors to the development of sociology. Emphasizes relevance of these ideas to contemporary social thought and current social issues.

SOC 4001 (SY 404) Advanced General Sociology. F,W,S,SS.
Credits: 4; Prereq.: 12 hours of sociology.
Intensive study at an advanced level of the general principles of sociology.

MAF 4400 (SY 409) The Sociology of Human Sexuality. S.
Credits: 4; Prereq.: SOC 2000 (SY 201).
Social sources and social consequences of ideas concerning human sexuality as they emerge from sociological study of Western and non-Western thought.

SOC 4245 (SY 413) Social Gerontology. F.
Credits: 4; Prereq.: SOC 2000 (SY 201).
Social and personal conditions of post-retirement years; family and housing patterns, income, leisure, health, group processes, and evaluation of institutional care for the aged.

SOC 4230 (SY 414) Social Factors in Health and Illness. F.
Credits: 4; Prereq.: 12 hours of sociology.
Effects of group characteristics in the causation, amelioration, and prevention of mental and physical illness and social influences in medical education, medical practice, and hospital administration.

SOC 4243 (SY 419) Sociology of Death and Survivorship.
Credits: 4
The sociological dimensions of death, bereavement, and widowhood; ritualistic customs and behavior associated with death on both intra- and cross-cultural bases; contemporary issues associated with death-related phenomena; social and environmental factors affecting survivor adaptation.

SOC 4410 (SY 422) Social Inequality. F.
Credits: 4; Prereq.: SOC 2000 (SY 201).
The unequal distribution, among individuals and groups, of wealth, power, and prestige; the effect of class systems upon society; the effect of class membership on individuals; social mobility.

SOC 4211 (SY 425) Sociology of Religion. W.
Credits: 4; [Ident. with (RN 425)] Prereq.: SOC 2000 (SY 201).
The sociological perspective on religions; their ideologies and rituals. Social aspects of the religious, and religious aspects of the social. Organized religions, and religions "outside the sacred walls."

SOC 4422 (SY 429) Complex Organizations. W.
Credits: 4; Prereq.: 12 hours of sociology or equivalent foundation in Educational Administration, Industrial and Systems Engineering, Management, or Political Science.
The behavior of individuals and systems in formal organizations; bureaucratic models; government, hospital, church, school, industry, etc., as manifestations of a common principle.

MAF 4501 (SY 432) The American Family. F,S,SS.
Credits: 4; Prereq.: SOC 2000 (SY 201).
The impact of rapid social changes upon families: racial, class, and ethnic variations. The liberation of women and changing family roles. Alternative life styles and the future of the family.

MAF 4510 (SY 433) Comparative Family Systems. W.
Credits: 4; Prereq.: SOC 2000 (SY 201).
An intercultural and historical analysis of the family. Emphasizes development of the Western family. U.S. kinship system within the historical and intercultural context.

SOC 4500 (SY 442) Methods of Social Research. F,W,S,SS.
Credits: 5
Introduction to the scientific method and its application to social science research. Research design, data collection, and selected topics related to data analysis and interpretation. (No statistics)

SOC 4620 (SY 460) Comparative Sociology: Theory and Methods.
Credits: 4; Prereq.: Senior standing.
Analysis of regularities and differences among societies. The importance of cross-societal research for building sociological theories.

SOC 4462 (SY 463) Modernization in Latin America.
Credits: 4; Prereq.: SOC 2000 (SY 201).
Definition and measurement of modernization. Cultural, social, and demographic causes and consequences of modernization in Latin America. The dependency model in Latin American development.

DHE 4200 (SY 470) Population Policy. W.
Credits: 4.
Review of past and current U.S. population policies. Formulation of policy in the light of numerous criteria and goals. Direct and indirect consequences of selected policies, their implementation and evaluation.

DHE 4101 (SY 471) Population. S.
Credits: 4; Prereq.: SOC 2000 (SY 201).
Characteristics and trends in the population of the contemporary world. Historical and current growth patterns related to resource conservation, food production, and modernization in various regions of the world.

SOC 4850 (SY 481) Collective Behavior. W.
Credits: 4; Prereq.: SOC 2000 (SY 201).
The dynamics, determinants, and significance of panicking, rioting, grieving, and celebrating crowds and of diffuse forms of fads, fashions, scandals, deviant epidemics and mass behavior. Study of the community dynamics and role of publics and public opinion in contemporary society.

SOC 4432 (SY 482) Social Movements. S.
Credits: 4; Prereq.: SOC 2000 (SY 201).
Sociological, sociopsychological, and natural history analyses of the determinants, processes, and functions of nativistic, reform, protest secessionist, cultic, communal, and revolutionary movements.

SOC 4831 (SY 483) Personality and Social Structure. W.
Credits: 4; Prereq.: SOC 3830 (SY 380) or equivalent.
The impact of social structure upon the statuses and roles of individual human beings. Personality development, role behavior, adult socialization, self image, and self evaluation; and the effects of assigning persons to different social positions.

SOC 4931 (SY 485) Departmental Honors in Sociology. F, W, S.
Credits: 4; Prereq.: By departmental invitation, limited to students with 30 hours of upper division credits, 16 hours of credit in Sociology, and an upper division grade-point average of 3.0 or an average in Sociology of 3.5.
Seminars, colloquia, and individual work on selected topics. Students may take the course for three quarters, for 12 hours credit.

SOC 4150 (SY 486) Criminology. F, S.
Credits: 5; Prereq.: SOC 2000 (SY 201).
Nature and causes of crime and criminality. Sociological analysis of criminal law and criminal justice agencies. Effects on the individual of being defined as criminal.

SOC 4130 (SY 487) Juvenile Delinquency. W.
Credits: 4; Prereq.: SOC 2000 (SY 201).
Theories and research on delinquency. Sociological analysis of the juvenile justice system.

SSI 4601 (SY 491) Masterpieces in Social Science 1. F.
Credits: 4; Prereq.: Senior standing and a major in one of the social sciences.
For advanced students with background work in the social sciences who have approval of their major adviser and the course chairperson. Reading of classics in economics, history, political science, sociology, and cultural anthropology.

SSI 4602 (SY 492) Masterpieces in Social Sciences 2. W.
Credits: 4
The second part of the masterpieces sequence.

SSI 4603 (SY 493) Masterpieces in Social Sciences 3. S.
Credits: 4
The third part of the masterpieces sequence.

SOC 4720 (SY 494) Black America: Current Problems. W.
Credits: 4; Prereq.: SOC 3745 (SY 391)
A survey of social conditions, social institutions, and group leadership among Afro-Americans today.

SOC 4905 (SY 496) Individual Work. F, W, S.
Credits: 4; Prereq.: 12 hours of sociology and consent of department.
Designed to permit students to work in areas not covered in regularly scheduled courses. May be repeated for credit up to 8 hours with change of content.

SOC 4040 (SY 498) Special Study in Sociology.
Credits: 4; Prereq.: 12 hours of sociology.
Pro-seminar study on specialized topics. May be repeated for credit with change of content for a maximum of 12 hours.

GRADUATE COURSES

SOC 5909 (SY 596) Individual Work
Credits: 1 to 5

SOC 5933 (SY 598) Special Study in Sociology.
Credits: 4

SOC 6646 (SY 603) Development of Sociological Thought
Credits: 4

SOC 6050 (SY 604) Advanced General Sociology.
Credits: 4

SOC 6647 (SY 605) The Development of Sociological Theories.
Credits: 4

SOC 6616 (SY 606) Basic Sociological Theories.
Credits: 4

SOC 6630 (SY 607) Theory Construction.
Credits: 4

SOC 6827 (SY 608) Ethnomethodology.
Credits: 4

MAF 6405 (SY 609) The Sociology of Human Sexuality.
Credits: 4

SOC 6246 (SY 613) Social Gerontology.
Credits: 4.

SOC 6235 (SY 614) Social Factors in Health and Illness.
Credits: 4

SOC 6236 (SY 615) Comparative Studies in Health Systems.
Credits: 4.

SOC 6237 (SY 616) Health Facilities in the Modern Community.
Credits: 4.

SOC 6238 (SY 617) Health Professions in the Modern Community.
Credits: 4.

SOC 6247 (SY 618) The Sociology of the Aged.
Credits: 4.

SOC 6244 (SY 619) Sociology of Death and Survivorship.
Credits: 4.

SOC 6415 (SY 622) Social Inequality.
Credits: 4.

SOC 6426 (SY 629) Complex Organizations.
Credits: 4.

MAF 6507 (SY 632) The American Family.
Credits: 4.

MAF 6515 (SY 633) Comparative Family Systems.
Credits: 4.

MAF 6601 (SY 634) Seminar in Family Theories.
Credits: 4.

MAF 6611 (SY 635) Seminar in Family Research.
Credits: 4.

SOC 6501 (SY 642) Methods of Social Research.
Credits: 5.

SOC 6502 (SY 643) Social Research Methods.
Credits: 4.

SOC 6506 (SY 648) Survey Research.
Credits: 5. [Ident. with POS 6757 (PCL 615)]

SOC 6315 (SY 651) Seminar in Metropolitan Growth and Development.
Credits: 4.

SOC 6312 (SY 652) Seminar in Urban Ecology.
Credits: 4.

SOC 6314 (SY 653) Seminar in Comparative Urbanization.
Credits: 4.

SOC 6321 (SY 658) Seminar: Sociology of Rural Development.
Credits: 4.

SOC 6625 (SY 660) Comparative Sociology: Theory and Methods.
Credits: 4.

SOC 6466 (SY 663) Modernization in Latin America.
Credits: 4.

SOC 6336 (SY 664) Seminar in Spanish American Societies.
Credits: 4.

SOC 6335 (SY 665) Seminar in Brazilian Society.
Credits: 4.

DHE 6205 (SY 670) Population Policy.
Credits: 4.

DHE 6110 (SY 672) Seminar in Population.
Credits: 4; [Ident. with GEO 6435 (GPY 651)]

DHE 6111 (SY 673) Seminar in Latin American Population.
Credits: 4.

SOC 6453 (SY 674) Seminar in Demographic Processes and Methods.
Credits: 4.

SOC 6808 (SY 680) Seminar in Symbolic Interaction.
Credits: 4.

SOC 6855 (SY 681) Collective Behavior.
Credits: 4.

SOC 6435 (SY 682) Social Movements.
Credits: 4.

SOC 6832 (SY 683) Personality and Social Structure.
Credits: 4

SOC 6175 (SY 684) Research Problems in Deviance.
Credits: 4.

SOC 6115 (SY 685) Deviance.
Credits: 4.

SOC 6155 (SY 686) Criminology.
Credits: 5.

SOC 6135 (SY 687) Juvenile Delinquency.
Credits: 4.

SOC 6748 (SY 691) Seminar in American Minority Groups.
Credits: 4.

SOC 6337 (SY 695) Seminar in Contemporary African Societies.
Credits: 4.

SOC 6909 (SY 696) Individual Work.
Credits: 1 to 5

SOC 6912 (SY 697) Supervised Research.
Credits: 1 to 5††

SOC 6946 (SY 698) Supervised Teaching.
Credits: 1 to 5††

SOC 6971 (SY 699) Master's Research.
Credits: 1 to 15.††

SOC 7657 (SY 701) Seminar in the Sociology of Knowledge.
Credits: 4.

SOC 7285 (SY 725) Research in Educational Sociology.
Credits: 5. [Ident. with EDF 7630 (EDF 725)]

SOC 7503 (SY 749) Seminar in Methods of Social Research.
Credits: 4.

SOC 7935 (SY 797) Advanced Study in Sociology.
Credits: 5.

SOC 7933 (SY 798) Special Study in Sociology.
Credits: 4.

SOC 7980 (SY 799) Doctoral Research.
Credits: 1 to 15.††

††Grading is on a S-U basis only.

SOIL SCIENCE
College of Agriculture

INSTRUCTIONAL STAFF 1976-77
Eno, C.F., Chairman; Blue, W.G.; Breland, H.L.; Caldwell, R.E.; Calhoun, F.G.; Carlisle, V.W.; Davidson, J.M.; Fiskell, J.G.A.; Gammon, N., Jr.; Graetz, D.A.; Hallmark, C.T.; Hammond, L.C.; Herbert, J.H.; Hubbell, D.H.; Mansell, R.S.; Popenoe, H.L.; Pritchett, W.L.; Robertson, W.K.; Rothwell, D.F.; Sartain, J.B.; Spinks, D.O.; Street, J.J., Volk, B.G.

SOS 3003 (SLS 312) The Soil—A Dynamic Multiple Resource. W, SS.
Credits: 2.
General background course for students interested in primary and secondary education, real estate, landscape architecture, and others who wish to gain an appreciation of soils as a living resource in our environment. Materials presented will be relevant to the use of soils for a wide variety of urban, industrial, agricultural, and recreational purposes. Not available for major credit.

SOS 3007 (SLS 325) Tropical Soils and Their Environment. W.
Credits: 4; Prereq.: One course in chemistry.
Soils in relation to tropical ecology and land management systems in agricultural development. For students who desire a cultural understanding of tropical agriculture. Not available for major credit.

SOS 3022 C (SLS 330) General Soils. F, W, S, SS.
Credits: 5; Prereq.: CY 201.
Fundamentals of soil science emphasizing their physical, chemical, and biological properties in relation to plant growth.

SOS 3215 C (SLS 333) Agriculture and Environmental Quality. W, SS.
Credits: 4 (Ident. with MCA 333).
Analysis of effects of agriculture on environmental quality; emphasis on agricultural wastes and practices; potential for using agricultural systems for disposal of other wastes; effects of pollution on the agricultural environment.

SOS 4941 (SLS 400) Full Time Practical Work Experience in Soil Science. F,W,S,SS.
Credits: 1 to 4; S-U Grade only. Prereq.: Prior arrangement with adviser, approval of Department Chairman and Dean.
Practical work must be a new experience and related to field of study.

SOS 4404 C (SLS 421) Soil Chemistry. F, S.
Credits: 4; Prereq.: SLS 330 and CY 203.
Fundamental relationships of the soil chemical factors and plant growth. The effect of organic matter, soil colloids, cation exchange, acidity, and liming on plant nutrient availability.

SOS 4303 (SLS 422) Soil Microbiology. F.
Credits: 4; Prereq.: SLS 330 and MCS 300, MCS 301.
Occurrence and activities of soil microorganisms and their influence on soil productivity.

SOS 4715 (SLS 423) Soil Genesis and Classification. W.
Credits: 4; Prereq.: SLS 330 and GY 201.
Morphology of soils, pedogenic processes, factors of soil formation, soilscapes and soil bodies, soil taxonomy, and interpretations of soil maps.

SOS 4602 (SLS 424) Soil Physics. W.
Credits: 4; Prereq.: SLS 330.
Physical properties of soils as related to use, emphasizing plant growth.

SOS 4115 (SLS 426) Fertilizers and Soil Fertility. F,S.
Credits: 4; Prereq.: SLS 330.
Formulation, manufacture, and use of commercial fertilizers with reference to economical aspects, methods of application, and effects on soil reactions.

SOS 4732 (SLS 428) Soil Survey. S.
Credits: 3; Prereq.: SLS 330.
Soil surveys, soil maps, and survey reports. Detailed survey and mapping of an assigned area.

SOS 4718 (SLS 437) Soils of Florida. F.
Credits: 3; Prereq.: SLS 330 and SLS 423, or consent of instructor.
Distribution and evaluation of Florida soils for agricultural, residential, industrial, and recreational uses. Basic geological relationships and factors of formation determining profile characteristics. Field trip required.

SOS 4906 (SLS 496) Individual Work. F, W, S, SS.
Credits: 1 to 3; Maximum of 3 credits; Prereq.: 8 credits of soils and permission of the instructor.
Selected topics for qualified students.

GRADUATE COURSES

SOS 5132 (SLS 525) Tropical Soils. W.
Credits: 3.

SOS 6932 (SLS 600) Topics in Soils.
Credits: 4.

SOS 6414 (SLS 621) Soil Chemistry.
Credits: 5.

SOS 6323 (SLS 622) Soil Microbiology.
Credits: 3.

SOS 6717 (SLS 623) Soil Genesis and Classification.
Credits: 4.

SOS 6622 (SLS 624) Soil Physics.
Credits: 4.

SOS 6136 (SLS 626) Soil Fertility.
Credits: 4.

SOS 6424 (SLS 627) Laboratory Methods of Soil Chemical Analysis.
Credits: 4.

SOS 6444 (SLS 628) Soil Organic Matter and Organic Soils.
Credits: 5.

SOS 6233 (SLS 630) Forest Soils.
Credits: 4.

SOS 6454 (SLS 631) Colloidal and Physical Chemistry of Soils.
Credits: 5.

SOS 6325 L (SLS 632) Soil Microbiology Laboratory.
Credits: 3.

SOS 6642 (SLS 634) Advanced Soil Physics.
Credits: 5.

SOS 6418 (SLS 636) Micronutrients in Soils.
Credits: 3.

SOS 6752 (SLS 637) Morphology of Florida Soils.
Credits: 1.

SOS 6464 (SLS 641) Soil Mineralogy.
Credits: 5.

SOS 6931 (SLS 651) Seminar.
Credits: 1.

SOS 6910 (SLS 696) Non-Thesis Research.
Credits: 1 to 6.

SOS 6911 (SLS 697) Supervised Research.
Credits: 1 to 5††

SOS 6942 (SLS 698) Supervised Teaching.
Credits: 1 to 5††

SOS 6971 (SLS 699) Master's Research.
Credits: 1 to 15††.

SOS 7980 (SLS 799) Doctoral Research.
Credits: 1 to 15††.

††Grading is on a S-U basis only.

SPEECH
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77
Jensen, P.J., Chairman; Saine T.J., III; Coordinator of Undergraduate Studies; Abbott, T.B.; Bock, D.G.; Bock, E.H.; Brown, D.R.; Brown, W.S., Jr.; Burgoon J.K.; Burgoon, M.; Bzoch, K.R.; Carpenter, R.H.; Chestnut, C.M.; Clark A.J.; Cutler, W.H.; Dew D.; Goldstein, L.P.; Hammer, L.C.; Hollien, H.; Hutchinson, E.C.; LaPointe, L.L.; Markel, N.N.; Moore, G.P.; Nattress, M.B.; Paige, A.; Rothman, H.B.: Schmidt, P.L.; Scholes, R.J.; Scroggie, E.; Sever, J.C.; Teas, D.C.; Tew, R.E.; Williams, D.E.; Williams,W.N.; Yost, W.A.

SPEECH MAJOR

Students who wish to major in speech should contact a departmental academic advisor as early as possible. The major in speech will be required to take at least 50 hours of acceptable courses including 30 hours in the core program (SCH 201, SCH 206, SCH 208, SCH 212, SCH 224, SCH 301, SCH 304, and SCH 309) plus 20 hours specializing in speech pathology, audiology, public communication, language sciences, phonetic sciences, or behavioral communication. Courses selected for the specialty area must be approved by a departmental academic advisor.

MAJOR HONORS PROGRAM:
To be eligible for admission into the Departmental Honors program, the student must have a GPA of 3.2 overall and in Speech, and must have completed at least 18 credits in Speech. To graduate with Departmental Honors, the student must have GPA of 3.3 in his major and 3.5 average for a minimum of 8 credits in SCH 498 "Honors in Speech."

SPC 2300 (SCH 201) Introduction to Speech Communication. F,W,S,SS.
Credits: 5
An introduction to the principles and procedures that promote effective communication. Concerned with the functions that speech communication serves for man. Examination of the various contexts in which communication occurs and constraining factors that affect communication.

SPC 2300 (SCH 206) Introduction to Nonverbal Communication. F,W,S,SS.
Credits: 3; Prereq.: SCH 201
Survey of the various modes of communication nonverbally, including use of the voice, body and eyes, physical appearance, touch, distancing, time usage and manipulation of the environment. Examination of the role of nonverbal communication in various contexts and in relation to verbal communication. Practical experience in observing and analyzing nonverbal cues.

LIN 2711 (SCH 208) Introduction to Speech Processing. F,W,S,SS.
Credits: 5; Prereq.: SCH 201.
An introduction to the distinctly human processes of speech production and perception, including a broad treatment of the physiology of the systems, the nature of the phonetic code and the acquisition of speech.

LIN 2701 (SCH 212) Introduction to Psycholinguistics. F,W,S,SS.
Credits: 3; Prereq.: SCH 201.
An introduction to the history, scope, problems and present state of the psychology of language. Includes survey of theories and methods of the

several disciplines concerned with the scientific study of language.

(SCH 224) Criticism and Interpretation of Oral Discourse. F,W,S,SS.
Credits: 3; Prereq.: SCH 201
Concerned with aesthetic and critical judgments of speech. Examination of the act of speech in a variety of performance situations. Special emphasis is placed on how one judges the quality of oral interpretation, the voice, and aesthetic dimensions of the speaker/audience relationship.

SPC 2050 (SCH 240) Voice and Articulation. F,S,
Credits: 3
Designed to establish good habits of speech via study of voice and articulation disorders. Includes practice in overcoming speech problems.

SPA 2013 (SCH 280) Introduction to Laboratory Technique in Speech.
Credits: 3; Prereq.: SCH 201
An introduction to basic measurement concepts and tools encountered in psychoacoustics, physiological acoustics, acoustic phonetics, speech pathology and audiology.

SPC 3440 (SCH 301) Group Communication Processes. F,W,S,SS.
Credits: 3; Prereq.: SCH 201.
Basic theory and research on the role of communication in small group discussion, examining information search, debate, and decision-making as communication processes. An introduction to the area of small group communication.

(SCH 304) Survey of Communication Disorders. F,W,S,SS.
Credits: 3; Prereq.: SCH 201.
Basic principles of speech pathology including consideration of the types, incidence, recognition and cause of speech and language disorders.

SPC 3210 (SCH 309) Theories of Human Communication. F,W,S,SS.
Credits: 5; Prereq.: SCH 201, SCH 208 and 8 credits in speech.
A thorough examination of theoretical approaches to human communication. Concerned with understanding how theory and research contribute to knowledge in the speech discipline. Intended to provide synthesis of material in speech-major core.

SPC 3250 (SCH 310) General Semantics in Spoken Language. F,W,S,SS.
Credits: 4; Prereq.: SCH 201.
Investigation of problems implicit in oral language usage through the study of general theory of symbols.

(SCH 311) Research Methods in Behavioral Communication. F, W, S.
Credits: 4; Prereq.: SCH 201.
Explores scientific methods of investigation and accompanying issues and concepts necessary to behavioral communication research. Studies those factors which facilitate the development of knowledge in the area.

SPC 3601 (SCH 312) Public Speaking. F, W, S, SS.
Credits: 4; Prereq.: SCH 201 or consent of Department Chairman.
Theory and practice in public speaking. Special consideration of audience and situational adaptation, support and organization of ideas, audience attention, and effective delivery.

SPC 3301 (SCH 314) Interpersonal Communication. F, W.
Credits: 4; Prereq.: SCH 201.
Explores interaction in face-to-face settings, including both dyadic and small group communication. Focuses on how communication fosters attraction, productivity, leadership, conflict and conflict resolution, and cohesion.

(SCH 316) Patterns of Intercultural Communication. F, W, S, SS.
Credits: 4; Prereq.: SCH 201.
Exploration of practices, trends, and difficulties of communicating across cultural boundaries; investigation of guidelines by which cross-cultural communication problems can be mitigated.

SPC 3594 (SCH 317) Intercollegiate Debate. F, W, S, SS.
Credits: 1; Prereq.: Satisfactory completion of one quarter of intercollegiate debate participation at the University of Florida before first registration in this course. No more than 2 credits can be earned without the satisfactory completion of Speech 164, or an equivalent course in Argumentation.
Analysis of propositions of fact, policy, and definition; library research methods; formal debate structure; participation in intercollegiate debate. May be repeated for maximum of 6 credits.

(SCH 360) Language and the Brain. F, S.
Credits: 3; (Ident. with LIN 360.)
How sentences are produced, understood, and remembered by the human language user. Linguistic studies of aphasia, mental retardation, and selected communicative skills such as reading will be considered.

SPC 3420 (SCH 362) Discussion and conference Methods. F, W, S, SS.
Credits: 4; Prereq.: SCH 201.
Designed to acquaint the student with principles, methods and theories of discussion and conference planning, and to assist him in developing leadership and conference skills.

SPC 3605 (SCH 363) Speechwriting. W.
Credits: 4; Prereq.: SCH 201.
Consideration of and practice with word choice and word arrangement as sources of style that influence memorability, credibility, and ease and accuracy of comprehension.

SPC 3513 (SCH 364) Argumentation. F, W, S, SS.
Credits: 4; Prereq.: SCH 201.
Study of principles of argumentation as they are applied in oral discourse; analysis of controversial propositions, evidence and modes of reasoning.

(SCH 367) Persuasion. F, W, S, SS.
Credits: 4; Prereq.: SCH 201.
Investigation of the persuasion function of human communication. Concerned with the context in which successful persuasion occurs and the variables that affect influence attempts.

(SCH 377) Interracial Communication. S.
Credits: 4; Prereq.: SCH 201.
Designed to promote better interracial understanding and interaction among students through the study of the theoretical aspects of interracial communication and through actual student participation in interracial discussion groups.

SPC 3305 (SCH 378) Creative Communication: Persons and Interactions. W.
Credits: 3; Prereq.: SCH 201.
A course employing humanistic learning processes to develop open, accepting and spontaneous interpersonal communicative relationships.

LIN 3206 (SCH 384) Introduction to Phonetic Transcription F, W, S, SS.
Credits: 2; Prereq.: SCH 201.
Intensive training in the use of the International Phonetic Alphabet (IPA) for transcribing phonetic elements of General American English.

SPA 3011 (SCH 385) Speech Acoustics. W.
Credits: 3; Prereq.: ACH 208.
An introduction to scientific methodologies, physics of sound and elementary instrumentation related to human speech communication.

SPA 3101 (SCH 386) Speech Physiology. S.
Credits: 3; Prereq.: SCH 208.
An introduction to elementary anatomy, physiology and neurophysiology of the speaking mechanism.

SPA 3102 (SCH 390) Fundamentals of Hearing. F,S.
Credits: 3; Prereq: Consent of instructor.
Concepts and principles relevant to the normal hearing processes: acoustics, gross anatomy, psychophysical methods and basic subjective correlates of the auditory system.

SPA 3105 (SCH 391) Neurophysiology of Hearing. W.
Credits: 3; Prereq: SCH 390 and consent of instructor.
Neuroanatomy of the auditory system, peripheral and central dynamics of the cochlea, electrophysiological response in the cochlea and in various levels of the auditory system.

LIN 3711 (SCH 394) Children's Speech. F,W,SS.
Credits: 3
An introduction to theoretical and practical aspects of speech and language development, beginning at birth, during infancy, and ending in later childhood.

SPC 4514 (SCH 405) Perspectives on Argumentation. S.
Credits: 4; Prereq: SCH 304.
Advanced study in theories of argument, with emphasis on pragmatic and ethical considerations in the application of the art.

SPC 4540 (SCH 407) Persuasion and Opinion Formation. W.
Credits: 4; Prereq: SCH 201 and consent of instructor.
Advanced studies in theories of persuasion and investigation of how persuasive communication shapes public opinion. Special consideration given to messages aimed at creating or changing public opinion on contemporary, controversial issues.

SPC 4680 (SCH 408) Theories and Criticism of Rhetorical Discourse. S.
Credits: 4
Exploratory readings and analysis of a spectrum of empirical and speculative theorists on the nature, practice, and criticism of oral discourse with persuasory intent.

(SCH 410) Great Debates in American Life. W.
Credits: 4; May be repeated with change of content up to a maximum of 12 credits.
Survey of the public speaking in major controversies related to political, social and intellectual life in America.

(SCH 411) Seminar in Interaction Analysis. S.
Credits: 4; Prereq: SCH 201; repeatable up to 12 hours.
Rotating topic seminar exploring issues, trends, and methods of analyzing interpersonal interaction, including measurement of the quality, content, and amount of communication; topics such a process measurement, field observation, and theraputic intervention.

(SCH 414) Seminar in Interpersonal Communication Processes. F,W.
Credits: 4; Prereq: SCH 201; repeatable up to 12 hours.
Rotating topic seminar exploring such interpersonal communication processes as nonverbal communication, group and sex roles and communication, and the communication processes associated with group decision-making.

COM 4110 (SCH 418) Seminar in Communication Contexts. W,S.
Credits: 4; Prereq: SCH 201; repeatable up to 12 hours.
Explores the role of speech communication in such contexts as organizations, the family, and

clinical situations. May be repeated with change of content. Prereq: consent of instructor.

SED 4335 (SCH 419) Teaching Speech in the Secondary Schools. W, SS.
Credits: 4; Prereq: 8 hours of Speech or consent of instructor.
An analysis of instructional methods and materials in speech at the secondary school level. Designed as a practical guide for the teacher of speech.

SPA 4051 (SCH 440) Laboratory in Clinical Speech Pathology Methods: Observation and Evaluation. F,W,S,SS.
Credits: 1††
Supervised clinical/laboratory experience in speech pathology.

SPA 4052 (SCH 441) Laboratory in Clinical Speech Pathology Methods: Remediation. F,W,S,SS.
Credits: 1††
Supervised clinical/laboratory experience in therapy.

SPA 4200 (SCH 450) Principles of Speech Pathology: Articulation Disorders. W,SS.
Credits: 2; Prereq: SCH 304, SCH 384, SCH 386 or consent of instructor.
Basic principles of diagnosis and therapy for individuals with articulatory disorders.

SPA 4210 (SCH 451) Principles of Speech Pathology: Voice Disorders. F.
Credits: 2; Prereq: SCH 304, SCH 386 or consent of instructor.
Theory and techniques of diagnosis and therapy for voice disorders.

SPA 4400 (SCH 452) Principles of Speech Pathology; Language Disorders. W.
Credits: 2; Prereq: SCH 212, SCH 304 or consent of instructor.
Theory and technique of diagnosis and therapy for language disorders.

SPA 4220 (SCH 453) Principles of Speech Pathology: Stuttering. F.
Credits: 2; Prereq: SCH 304 or consent of instructor.
Theory and technique of diagnosis and therapy for stuttering.

SPA 4053 (SCH 460) Laboratory in Clinical Audiology Methods: Observation and Evaluation. F,W,S,SS.
Credits: 1††
Supervised clinical/laboratory experience in hearing testing.

SPA 4054 (SCH 461) Laboratory in Clinical Audiology Methods: Remediation. F,W,S,SS.
Credits: 1††
Supervised clinical/laboratory experience in aural rehabilitation.

SPA 4302 (SCH 462) Principles of Audiological Evaluation. F,W,S,SS.
Credits: 4
Basic techniques in pure-tone and speech audiometry. Interpretation of test results.

(SCH 467) Seminar in Influence Processes. F,W,S.
Credits: 4; Prereq: SCH 201; repeatable up to 12 hours.
Rotating topic seminar exploring such influence processes as the communication of innovations, persuasion and resistance to persuasion, leadership, and communication as power.

(SCH 468) Selected Topics in Public Communication. F,W,S.
Credits: 4; Prereq: SCH 201 and advanced standing; May be repeated with change of content up to a maximum of 12 credits.
Investigation of focused topics pertaining to theory and practice of speaker-audience communication.

††Grading is on a S-U basis only.

SPA 4420 (SCH 472) Speech and Language for the Deaf and Hard of Hearing. F.
Credits: 4; Prereq: SCH 462 or consent of instructor.
Basic principles and procedures in the development and correction of speech and language of the deaf and hard of hearing.

SPA 4362 (SCH 474) Auditory Training and Speechreading. W.
Credits: 4; Prereq: SCH 462 or consent of instructor.
Methods in auditory training and speechreading in aural rehabilitation.

LIN 4233 (SCH 485) Advanced Phonetics and Phonemics. S.
Credits: 3; Prereq: SCH 384.
Study of the sounds of spoken English. Detailed examination of dialect differences, the phonemic structure of English, phonemic theory, and the description of non-language sounds. Includes transcription practice.

LIN 4231 (SCH 486) Advanced Phonetic Transcription. W,SS.
Credits: 3; Prereq: SCH 384.
Intensive training in the use of the International Phonetic Alphabet (IPA) for transcribing phonetic elements of regional and cultural dialects in the United States, misarticulations in English, and foreign languages.

(SCH 487) Phonetic Theory. F,W,S.
Credits: 4; Prereq: SCH 208, 212, and 304.
The physiologic, acoustic, and perceptual study, analysis and evaluation of speech sounds in differing contexts within the English language. Theories of speech production and perception will be linked to phonetic analysis of American English.

(SCH 488) Contemporary Issues in Phonetic Sciences. W,S,S.
Credits: 4; Prereq: SCH 208, 212, and 304.
Designed to explore current topics in Phonetic Sciences, e.g., Speaker Identification, Speech Processes, Models of Speech Production/Perception. Discussions of the selected topic will include: background information, current status, experimental questions, methodologies and future consideration for research.

SPA 4121 (SCH 491) Auditory Perception of Speech. SS.
Credits: 3; Prereq: SCH 390 and consent of instructor.
Concepts and principles relevant to the perception of speech with emphasis on the auditory system: psychophysical methods, test materials, and basic subjective correlates of speech perception.

SPA 4118 (SCH 492) Psychoacoustics 1.
Credits: 5; Prereq: SCH 390.
Lectures, discussions and laboratory work on auditory stimulus, psychoacoustical methodology: general models of auditory processing.

LIN 4711 (SCH 494) Receptive Language Development in Infancy. F,W,S,SS.
Credits: 3
Receptive capacities and processes of infants for language development from the prenatal period through the first two years of life.

LIN 4710 (SCH 496) Individual Study. F,W,S,SS.
Credits: 1 to 4. Available by permission of instructor and department chairman.
A project, reading, or research course. May be repeated with change of content up to a maximum of 8 credits.

(SCH 498) Honors in Speech. W,S.
Credits: 4; Prereq: A 3.2 GPA in upper division coursework including at least 18 hours in speech.
Course will focus on some current investigation in speech and will require an original contribution from each student. Content varies from term to term. May be repeated for a maximum of 8 credits.

GRADUATE COURSES

SPC 5230 (SCH 502) History of Rhetorical Theory.
Credits: 4

SED 5340 (SCH 503) Teaching Speech in Higher Education.
Credits: 4

SPC 5631 (SCH 508) Theories of Political Communication.
Credits: 4

SPC 5610 (SCH 510) Great Debates in American Life, 1650 to Present.
Credits: 4; Maximum of 12.

SED 5372 (SCH 517) The Modern Forensics Program.
Credits: 4

SPA 5202 (SCH 540) Principles of Speech Pathology: Articulation Disorders.
Credits: 4

SPA 5211 (SCH 541) Principles of Speech Pathology: Voice Disorders.
Credits: 4

SPA 5403 (SCH 542) Principles of Speech Pathology: Language Disorders.
Credits: 4

SPA 5223 (SCH 543) Principles of Speech Pathology: Stuttering.
Credits: 4

SPA 5553 (SCH 549) Principles of Speech Pathology and Audiology: Diagnosis and Appraisal.
Credits: 4

SPA 5304 (SCH 560) Principles of Audiological Evaluation.
Credits: 4

SPA 5111 (SCH 562) Theoretical Foundations of Audiology.
Credits: 4

SPA 5423 (SCH 572) Speech and Language for the Deaf and Hard-of-Hearing.
Credits: 4

SPA 5322 (SCH 574) Auditory Training and Speechreading.
Credits: 4

SPA 5135 (SCH 580) Electro-Acoustical Laboratory.
Credits: 3

SPC 5149 (SCH 581) Applications of Digital Computers to Speech Research.
Credits: 3

SPC 5184 (SCH 582) Man-Machine Communication.
Credits: 4

LIN 5231 (SCH 585) Advanced Phonetics and Phonemics.
Credits: 5

SPA 5122 (SCH 591) Auditory Perception of Speech.
Credits: 4

(SCH 592) Psychoacoustics 1.
Credits: 5

LIN 5710 (SCH 594) Language Acquisition.
Credits: 5

SPC 5335 (SCH 595) Nonverbal Communication.
Credits: 5

(SCH 596) Special Topics.
Credits: 3 to 5; maximum 10.

COM 6300 (SCH 600) Introduction to Graduate Study.
Credits: 4

SPC 6239 (SCH 601) Seminar in Rhetorical Theory.
Credits: 4

SPC 6682 (SCH 605) Rhetorical Criticism.
Credits: 4

SPC 6442 (SCH 606) Theories of Small Group Communication.
Credits: 4

SPC 6619 (SCH 608) Seminar in American Public Address.
Credits: 4

SPC 6253 (SCH 610) Principles and Theories of General Semantics.
Credits: 4

COM 6316 (SCH 611) Quantitative Research in Speech 1: Applied Methodologies.
Credits: 4

(SCH 612) Quantitative Research in Speech 2: Laboratory Methodologies.
Credits: 4

SPC 6218 (SCH 613) Seminar: Human Communication Theory.
Credits: 4

COM 6350 (SCH 614) Methods of Theory Construction in Speech.
Credits: 4

(SCH 615) Studies in the Processes of Influence.
Credits: 4

COM 6318 (SCH 616) Measurement in Speech Communication.
Credits: 4

COM 6121 (SCH 618) Seminar - Organizational Speech Communication.
Credits: 4

SED 6930 (SCH 619) Seminar; Instructional Development in Speech.
Credits: 4; Prereq: SCH 503 or consent of instructor.

SPA 6204 (SCH 640) Seminar in Speech Pathology: Articulation Disorders.
Credits: 2

SPA 6215 (SCH 641) Seminar in Speech Pathology: Voice Disorders.
Credits: 2

SPA 6407 (SCH 642) Seminar in Speech Pathology: Language Disorders.
Credits: 2

SPA 6226 (SCH 643) Seminar in Speech Pathology: Stuttering in Adults.
Credits: 2

SPA 6214 (SCH 644) Seminar in Speech Pathology: Alaryngeal Speech.
Credits: 2

SPA 6207 (SCH 645) Seminar in Speech Pathology: Neurogenic Articulation Disorders.
Credits: 2

SPA 6227 (SCH 646) Seminar in Speech Pathology: Stuttering in Children.
Credits: 1

SPA 6445 (SCH 647) Seminar in Language Pathology: Psychosocial Etiologies.
Credits: 2

SPA 6216 (SCH 648) Seminar in Speech Pathology: Special Voice Problems.
Credits: 2

SPA 6521 (SCH 649) Clinical Practice in Speech Pathology: Diagnosis.
Credits: 1 to 10††

SPA 6206 (SCH 650) Seminar in Speech Pathology: Myofunctional Disorders.
Credits: 2

SPA 6411 (SCH 651) Seminar in Language Pathology: Aphasia in Children.
Credits: 2

SPA 6600 (SCH 653) Organization and Administration of Speech Pathology and Audiology Programs.
Credits: 4

SPA 6435 (SCH 654) Seminar in Speech, Hearing, and Language: Mental Retardation.
Credits: 2

SPA 6231 (SCH 655) Seminar in Speech, Hearing and Language: Cerebral Palsy.
Credits: 2

SPA 6410 (SCH 656) Seminar in Speech, Hearing, and Language: Aphasia.
Credits: 2

SPA 6245 (SCH 657) Seminar in Speech, Hearing and Language: Cleft Palate.
Credits: 2

SPA 6524 (SCH 659) Clinical Practice in Speech Pathology: Therapy.
Credits: 1 to 15††

SPA 6313 (SCH 660) Seminar in Audiology: Diagnostic Procedures for Peripheral Disorders.
Credits: 2

SPA 6345 (SCH 661) Seminar in Audiology: Hearing Aids.
Credits: 2

SPA 6305 (SCH 662) Seminar in Audiology: Children's Audiometry.
Credits: 2

SPA 6314 (SCH 663) Seminar in Audiology: Diagnostic Procedures for Central Hearing Disorders.
Credits: 2

SPA 6318 (SCH 664) Seminar in Audiology: Diagnostic Procedures for Special Problems in Hearing.
Credits: 2

SPA 6531 (SCH 669) Clinical Practice in Hearing Measurement.
Credits: 1 to 10††

SPA 6327 (SCH 670) Seminar in Audiology: Aural Rehabilitation.
Credits: 2.

SPA 6364 (SCH 671) Seminar in Audiology: Psychology of Deafness.
Credits: 2

SPA 6533 (SCH 679) Clinical Practice in Aural Rehabilitation.
Credits: 1 to 10††

SPA 6155 (SCH 680) Proseminar in Communication Sciences.
Credits: 5

SPA 6933 (SCH 683) Special Topics in Communication Sciences.
Credits: 1††

LIN 6711 (SCH 684) Child Language.
Credits: 4

SPA 6140 (SCH 685) Experimental Phonetics 1.
Credits: 3

SPA 6141 (SCH 686) Experimental Phonetics Lab 1.
Credits: 3

SPA 6145 (SCH 687) Experimental Phonetics 2
Credits: 3

SPA 6146 (SCH 688) Experimental Phonetics Lab 2.
Credits: 3

LIN 6705 L (SCH 689) Psycholinguistics Laboratory.
Credits: 3

SPA 6120 (SCH 691) Psychoacoustics II.
Credits: 5

(SCH 692) Psychophysiology of Hearing.
Credits: 5

SPA 6107 (SCH 693) Cochlear Biophysics.
Credits: 5

LIN 6707 (SCH 694) Experimental Linguistics.
Credits: 5

LIN 6705 (SCH 695) Psycholinguistics.
Credits: 5

(SCH 696) Individual Study.
Credits: 1 to 10

SPC 6919 (SCH 697) Supervised Research.
Credits: 1 to 5††

SPA 6940 (SCH 698) Supervised Teaching.
Credits: 1 to 5††

SPC 6971 (SCH 699) Master's Research.
Credits: 1 to 15††

SPC 7937 (SCH 701) Seminar in the Philosophy of Speech Communication.
Credits: 4; Maximum of 8.

SPC 7548 (SCH 715) Seminar: Theories of Persuasion.
Credits: 4

SPA 7523 (SCH 749) Practicum in Speech Pathology in a Medical-Dental Setting.
Credits: 3 to 10††

SPA 7536 (SCH 769) Practicum in Audiology in a Medical Setting.
Credits: 3 to 10††

SPA 7354 (SCH 772) Seminar in Audiology: Hearing Conservation and Noise Control.
Credits: 2

SPC 7190 (SCH 780) Seminar in Communication Sciences.
Credits: 3

LIN 7290 (SCH 785) Seminar in Experimental Phonetics.
Credits: 3

(SCH 786) Seminar in Speech Recognition.
Credits: 3

(SCH 790) Seminar in Audition.
Credits: 3

LIN 7709 (SCH 795) Seminar in Psycholinguistics.
Credits: 3

LIN 7195 (SCH 796) Seminar in Experimental Linguistics.
Credits: 3

SPA 7980 (SCH 799) Doctoral Research.
Credits: 1 to 15††

STATISTICS
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77
Mendenhall, W., Chairman; Agresti, A.C.; Boyett, J.M.; Carter, R.L.; Chew, V.; Cornell,

††Grading is on a S-U basis only.

J.A.; Dietrich, F.H.; Khuri, A.I.; Lezotte, D.C.; Littell, R.C.; Marks, R.G.; Martin, F.G.; McClave, J.T.; Peele, L.C.; Pop-Stojanovic, Z.R.; Rao, P.V.; Saw, J.G.; Scheaffer, R.L.; Shuster, J.J.; Smidt, R.K.; Wackerly, D.D.; Yang, M.C.K.

An undergraduate major in statistics is offered in both the College of Agriculture and the College of Arts and Sciences. Students planning an undergraduate major in statistics should consult one of the departmental major advisers, Dr. F. H. Dietrich, 508 Nuclear Sciences Center, or Dr. J. J. Shuster, 511 Nuclear Sciences Center. In preparation for this program the student should take the following courses during the freshman and sophomore years: MS 301 and MS 302. Upper division courses will include STA 440, 441, 407, 408, 409.

The 12 additional hours of the statistics major requirements will consist of CIS, MS, and STA courses, chosen in consultation with the adviser. Selection will depend on the student's future plans.

Students taking Statistics as a major may receive "Honors in Statistics" if they (1) obtain a 3.1 grade point average in upper division work; (2) obtain a 3.6 grade point average for all major courses; and (3) include a total of at least seven additional hours of approved course work in CIS, STA, or MS (beyond the requirements for the major).

STA 3013 (STA 310) Statistics for The Social Sciences. F, W, S, SS.
Credits: 4; Prereq: None
Introduction to descriptive and inferential statistical techniques with applications in the Social Sciences.

STA 3023 (STA 320) Introduction to Statistics 1. F, W, S, SS.
Credits: 4
Development of the fundamental statistical concepts and their relationship to the social and physical sciences.

STA 3024 (STA 321) Introduction to Statistics 2. W, S,S.
Credits: 3; Prereq: STA 320 or equivalent.
An introduction to the analysis of variance. Chisquare and contingency tables. Nonparametric statistical methods and applications.

STA 3032 (STA 330) Engineering Statistics. F, W, S, SS.
Credits: 3
A survey of the basic concepts in statistics with engineering application.

STA 4404 (STA 401) Discrete Probability. F, S.
Credits: 4
Basic probability theory, random variables, probability distributions, and expectations. Application to model building and decision making.

STA 4202 (STA 407) Analysis of Designed Experiments 1. F.
Credits: 3; Prereq: STA 320 or equivalent.
Simple experimental designs. Least squares analysis of experiments. Analysis of variance for a k-way classification.

STA 4203 (STA 408) Analysis of Designed Experiments 2. W.
Credits: 3; Prereq: STA 407.
Analysis of variance for fixed effect models. Response surface methods.

STA 4204 (STA 409) Analysis of Designed Experiments 3. S.
Credits: 3; Prereq: STA 408.
Analysis of experiments for completely random and mixed models.

††Grading is on a S-U basis only.

STA 4033 (STA 410) Mathematical Statistics with Computer Applications. F, S.
Credits: 5; Prereq: MS 302, CIS 311 or equivalent.
A basic course in mathematical statistics with computer applications. Probability distribution, expectations, parameter estimation, hypothesis testing, regression and analysis of variance.

STA 4222 (STA 420) Sample Survey Design. S, SS.
Credits: 3; Prereq: STA 320 or equivalent.
An introduction to the design of sample surveys in the economic and social sciences. Questionaire construction, stratified sampling, ratio and regression estimators.

STA 4321 (STA 440) Mathematical Statistics 1. F, W.
Credits: 4; Prereq: MS 302.
An introduction to the theory of probability, random variables and their probability distributions. Expectations of random variables. Distribution of functions of variables; introduction to the theory of estimation.

STA 4322 (STA 441) Mathematical Statistics 2. W, S.
Credits: 4; Prereq: STA 440.
Tests of hypotheses, introduction to least squares, correlation, analysis of variance and design of experiments. Nonparmetric methods.

STA 4173 (STA 450) Biometry. S.
Credits: 4; Prereq: STA 441 or equivalent.
Specialized statistical methods in the medical sciences. Contents include: Large sample theory, Analysis of Survival, Dose response curves, Contingency tables, Clustering in time and space, Semi-Markov models in clinical trials, and Binary regression.

STA 4930 (STA 490) Special Topics in Statistics.
Credits: 3; Permission of the Department chairman.
Special topics designed to meet the needs and interests of individual students. May be repeated with change of content up to a maximum of 15 credits.

STA 4905 (STA 496) Individual Work. F, W, S, SS.
Credits: 1 to 5; Prereq: permission of department.
Special topics designed to meet the needs and interest of individual students. May be repeated with change of content up to a maximum of 15 credits.

GRADUATE COURSES

STA 5106 (STA 523) Computer Programs in Statistical Analysis 1. W.
Credits: 2; Prereq: Concurrent registration in STA 408, STA 603, or STA 608, or consent of instructor.

STA 5107 (STA 524) Computer Programs in Statistical Analysis 2. S.
Credits: 2; Prereq: STA 523 and concurrent registration in STA 409, STA 603 or STA 609, or consent of instructor.

STA 6166 (STA 602) Statistical Methods in Research 1
Credits: 4

STA 6167 (STA 603) Statistical Methods in Research 2.
Credits: 4

STA 6206 (STA 607) Design and Analysis of Experiments 1.
Credits: 3

STA 6207 (STA 608) Design and Analysis of Experiments 2.
Credits: 3

STA 6208 (STA 609) Design and Analysis of Experiments 3.
Credits: 4

STA 6326 (STA 610) Introduction to Theoretical Statistics 1.
Credits: 3

STA 6327 (STA 611) Introduction to Theoretical Statistics 2.
Credits: 3

STA 6328 (STA 612) Introduction to Theoretical Statistics 3.
Credits: 3

STA 6246 (STA 619) Theory of Least Squares.
Credits: 4

STA 6247 (STA 621) Advanced Topics in Design and Analysis.
Credits: 4

STA 6226 (STA 622) Sampling Theory and Application 1.
Credits: 4

STA 6707 (STA 623) The Analysis of Multivariate Data.
Credits: 4

STA 6227 (STA 624) Sampling Theory and Application 2.
Credits: 4

STA 6857 (STA 626) Applied Time Series Analysis.
Credits: 4

STA 6900 (STA 628) Problems in Statistics.
Credits: 1 to 5

STA 6176 (STA 635) Biostatistics 1.
Credits: 4

STA 6177 (STA 636) Biostatistics 2.
Credits: 4

STA 6178 (STA 637) Biostatistics 3.
Credits: 4

STA 6446 (STA 640) Probability Theory 1.
Credits: 4

STA 6447 (STA 641) Probability Theory 2.
Credits: 4

STA 6448 (STA 642) Probability Theory 3.
Credits: 4

STA 6526 (STA 650) Nonparametric Statistics 1.
Credits: 4

STA 6267 (STA 652) Sequential Methods.
Credits: 4

STA 6826 (STA 660) Stochastic Processes 1.
Credits: 3

STA 6827 (STA 661) Stochastic Processes 2.
Credits: 3

STA 6828 (STA 662) Stochastic Processes 3.
Credits: 3

STA 6746 (STA 670) Multivariate Analysis 1.
Credits: 4

STA 6747 (STA 671) Multivariate Analysis 2.
Credits: 4

STA 6606 (STA 676) Stochastic Systems Analysis 1.
Credits: 3

STA 6876 (STA 680) Time Series 1.
Credits: 4

STA 6877 (STA 681) Time Series 2.
Credits: 4

STA 6934 (STA 690) Special Topics in Statistics.
Credits: 4

STA 6938 (STA 691) Seminar.
Credits: 1††

STA 6906 (STA 696) Individual Work.
Credits: 1 to 5

STA 6910 (STA 697) Supervised Research.
Credits: 1 to 5††

STA 6941 (STA 698) Supervised Teaching.
Credits: 1 to 5††

STA 6971 (STA 699) Master's Research.
Credits: 1 to 15††

STA 7346 (STA 740) Statistical Inference 1.
Credits: 4

STA 7347 (STA 741) Statistical Inferences 2.
Credits: 4

STA 7348 (STA 742) Statistical Inference 3.
Credits: 4

STA 7980 (STA 799) Doctoral Research.
Credits: 1 to 15††

THEATRE
College of Fine Arts

INSTRUCTIONAL STAFF 1976-77
Hooks, E. James, Chairman; Green, R.L.; Shelton, D.L.; Wehlburg, A.F.C.; West, G.L.; and Zimmerman, L.L.

All students who are considering Theatre as a major should consult the departmental academic advisor soon after enrolling in the University. In the Department of Theatre an upper division total of 95 credits is required for the B.F.A. degree. This total must include the following core curriculum: THE 324, 328, 329, 330, 421, 422, 424, 428, 429, 430, EH 431, 432, MSC 210.

Additional requirements include a 35 credit specialization in either Performance, Design-Technical, Costumes, or Dance. A total of 45 credits in theatre courses is required for the B.A. degree. The total must include the following core curriculum: THE 225, 320, 324, 328, 329, 330.

A drama emphasis leading to the B.A. in Education is available through the Language Arts major offered by the College of Education. Also available is a theatre major offered through the College of Arts and Sciences, leading to the degree Bachelor of Arts.

THE 2000 (THE 220) Theatre Appreciation 1. F,W,S,SS.
Credits: 4
To develop an appreciation of theatre through a study of theatre history and literature.

ORI 2001 (THE 225) Oral Performance of Literature 1. F,W,S,SS.
Credits: 4
An introduction to the presentation mode of interpreting literature and drama, with an emphasis on the improvement and specialized application of vocal skills.

ORI 2002 (THE 226) Oral Performance of Literature II. F,W,S,SS.
Credits: 4; Prereq: THE 225 or permission of instructor.
An advanced study of the presentational mode of interpreting literature and drama with an emphasis on the aesthetic properties of form and style.

TPP 2700 (THE 240) Voice and Diction Workshop. F,W,S,SS.
Credits: 4
The performance oriented workshop designed for the development and application of voice and diction skills.

TPP 3110 (THE 320) Acting 1. F,S.
Credits: 4; Prereq: THE 225 or permission of instructor.
A study of the basic techniques and theories of acting.

TPP 3111 (THE 321) Acting II. W.
Credits: 4; Prereq: THE 320 or permission of instructor.
A study of acting styles and their relation to theatre aesthetics.

TPP 3112 (THE 322) Acting III. S.
Credits: 4; Prereq: THE 320 and THE 321
Study of the Acting programs inherent in the form and character structure of the period play, with exercises emphasizing delivery and period stage conventions.

THE 3950 (THE 323) Theatre Practice. F,W,S.
Credits: 1 to 4; May be repeated for maximum of 12 credits.
Practical problems in theatre performance and production. An introduction to, and practice of, the standardized methods and procedures of theatre production.

TPA 3200 (THE 324) Stagecraft and Design I. F,S.
Credits: 4; Prereq: THE 220 or permission of instructor.
The basic techniques of scene construction, lighting and painting with an introduction to design principles.

TPA 3060 (THE 325) Stagecraft and Design II. W.
Credits: 4; Prereq: THE 324 or permission of instructor.
Specialized techniques of stagecraft and design problems.

TPA 3220 (THE 326) Technical Theater Principles. F.
Credits: 4; Prereq: THE 325 or permission of instructor.
A study of the specialized techniques and design factors essential to stage scenery, lighting, and costumes.

TPA 3250 (THE 327) Stage Makeup. W.
Credits: 3; Prereq: THE 220, THE 320.
Study and application of the principles, materials, and procedures for effective execution of theatrical makeup. Majors only, except by permission of instructor.

TPP 3650 (THE 328) Production Analysis of the Playscript. F.
Credits: 4; Prereq: CEH 131, 132, 133 and/or CHN 251, 252, 253.
An analysis of classic and commercial playscripts for the purpose of isolating specialized production problems and identifying the production potential of varied artistic form constructs. For majors only.

TPP 3310 (THE 329) Directing 1. W.
Credits: 4; Prereq: THE 320 and THE 324 or permission of instructor.
Basic principles of play direction, including problems of selecting, casting, and rehearsing plays.

TPP 3314 (THE 330) Directing II. S.
Credits: 4; Prereq: THE 320, 324, 329 or permission of instructor.
Analysis of selected types of dramatic literature for appropriate directing style, and practical experience in directing projects.

TPP 3510 (THE 331) Stage Movement I. F.
Credits: 4; Prereq: Majors only, or permission of instructor.
Basic principles and techniques of stage movement for the actor, including development of the body as an instrument of stage characterization.

TPP 3511 (THE 332) Stage Movement II. W.
Credits: 4; Prereq: THE 331 or permission of instructor.
Advanced principles and techniques of stage movement, including styles of period movement.

TPP 3512 (THE 333) Stage Movement III. S.
Credits: 4; Prereq: THE 331, THE 332.
The application of the basic movement techniques in structuring a physical idiom appropriate to the stage character and to the physical demands of perid plays or stylized modes of theatrical production.

TPA 3270 (THE 337) Advanced Equipment Utilization. F.
Credits: 5; Prereq: THE 324, 325, 326, or permission of instructor.
Designed for the advanced student to become conversant with the uses and functions of sophisticated theatre construction tools as used in furniture building, steel construction and properties making. Additionally, principles and application of sound as it is used in the theatre will be covered.

TPA 4024 (THE 420) Advanced Lighting Design. F.
Credits: 4; Prereq: THE 325 or permission of instructor.
Lighting equipment, control, design and aesthetics. Application of the principles of, and responses to, color and light in the theatre.

THE 4040 (THE 421) Theatrical Costume I. F.
Credits: 4; Prereq: THE 325 or permission of instructor.
The history of stage costume from antiquity to the post-Elizabethan period, and a study of the basic design elements involved. Laboratory experience in costume construction.

TPA 4041 (THE 422) Theatrical Costume II. W.
Credits: 4; Prereq: THE 421 or permission of instructor.
The history of stage costume and a study of basic design elements, fabrics and patterns. Laboratory experience in costume construction.

TPA 4042 (THE 423) Theatrical Costume III. S.
Credits: 4; Prereq: THE 442 or permission of instructor.
Principles of costume design with construction and design projects.

THE 4945 (THE 424) Theatre Production: A Practicum in Repertory Theatre. SS.
Credits: 1 to 12. Prereq: THE 322, 325, 420, 423, and consent of staff.
A practical production experience in repertory theatre with direct skills application in all areas of theater production, and special emphasis on the problems of organizing a multi-production repertory program.

TPA 4062 (THE 426) Problems in Scene Design. W.
Credits: 4; Prereq: THE 324, 325, 326, 329, or permission of instructor.
Scene Design as an art: A consideration of the spatial and aesthetic factors operative in the scenic elements with special emphasis on pragmatic consideration of the design process.

TPA 4047 (THE 427) Production Costume Design. F.
Credits: 4; Prereq: THE 422 and 423 or permission of instructor.
The application of fundamentals of costume design to costume requirements fostered by specific production concepts.

THE 4110 (THE 428) History of the Theatre I. F.
Credits: 4; Prereq: THE 220, 324, 329.
Development of the theatre from its beginning through the Middle Ages.

THE 4111 (THE 429) History of the Theatre II. W.
Credits: 4; Prereq: THE 220, 324, 329.
Development of the theatre from the Middle Ages to the 18th Century.

THE 4112 (THE 430) History of the Theatre III. S.
Credits: 4; Prereq: THE 220, 324, 329.
Development of the theatre from the 18th Century to the present.

††Grading is on a S-U basis only.

Descriptions

VEGETABLE CROPS

THE 4730 (THE 438) Production of Plays in the Secondary School. F.
Credits: 4; Prereq: THE 324, 325 or permission of instructor.
Elements of play production for the secondary school. An emphasis on basic procedures, problems of organization, and facility adaptation and development.

THE 4760 (THE 439) The Teaching of Drama in the Secondary Schools. W.
Credits: 4; Prereq: THE 200 or permission of instructor.
Practical philosophy of drama education as it functions at the secondary school level.

THE 4905 (THE 496) Individual Study. F,W,S,SS.
Credits: 1 to 4; Prereq: Permission of instructor and Department Chairman.
A project, reading, or research course. May be repeated with change of content up to a maximum of 8 credits.

GRADUATE COURSES

THE 5118 (THE 522) Graduate Acting I. F.
Credits: 4; Prereq: THE 322 or permission of instructor.

TPA 5210 (THE 524) Summer Repertory Theatre. SS.
Credits: 1 to 12; Prereq: Consent of Staff.

TPA 5084 (THE 526) Problems in Scene Design. F.
Credits: 4

TPA 5047 (THE 527) Production Costume Design. F.
Credits: 4

THE 5116 (THE 528) History of the Theater I. F.
Credits: 4

THE 5117 (THE 529) History of the Theatre II. W.
Credits: 4

THE 5118 (THE 530) History of the Theatre III. S.
Credits: 4

TPP 6934 (THE 620) Advanced Problems of Stage Direction.
Credits: 5

TPA 6085 (THE 621) Advanced Prblems in Scene Design.
Credits: 5

THE 6203 (THE 622) American Plays, Players, and Playwrights I.
Credits: 4

THE 6204 (THE 623) American Plays, Players, and Playwrights II.
Credits: 4

THE 6285 (THE 624) Readings in Theatrical History I.
Credits: 4

THE 6286 (THE 625) Readings in Theatrical History II.
Credits: 4

TPA 6215 (THE 626) Backgrounds in Modern Theatrical Practice.
Credits: 4

THE 6287 (THE 627) Art History of the Theatre.
Credits: 4

THE 6560 (THE 628) Seminar in Theatre Aesthetics I.
Credits: 4

THE 6561 (THE 629) Seminar in Theatre Aesthetics II.
Credits: 4

††Grading is on a S-U basis only.

THE 6230 (THE 631) Styles in Theatrical Art I.
Credits: 4

THE 6231 (THE 632) Styles in Theatrical Art II.
Credits: 4

THE 6232 (THE 633) Styles in Theatrical Art III.
Credits: 4

THE 6023 (THE 634) Seminar and Practicum in Modern Theatre Design and Practice.
Credits: 4; max. 12

TPA 6023 (THE 635) Studies in Contemporary European Theatrical Practices.
Credits: 4

THE 6200 (THE 636) Studies in Contemporary American Theatrical Practices.
Credits: 4

TPA 6270 (THE 637) Advanced Equipment Utilization
Credits: 5; Prereq: THE 324, 325, 326 or permission of instructor.

THE 6913 (THE 638) Theatre Research.
Credits: 4

ORI 6430 (THE 639) Theories of Interpretive Reading.
Credits: 4

TPA 6935 (THE 640) Seminar in Production Theory Analysis and Application.
Credits: 4

TPP 6140 (THE 641) Graduate Acting II.
Credits: 4; Prereq: THE 522 or equivalent, and consent of instructor.

TPA 6087 (THE 642) Costume Management
Credits: 4; Prereq: THE 421, 422, 423 or equivalent, and permission of instructor.

TPP 6230 (THE 644) Acting Ensemble.
Credits: 4 to 12; Prereq: THE 641 or equivalent and permission of instructor.

TPP 6396 (THE 645) Directing Workshop.
Credits: 4 to 12; Prereq: THE 328, 329, 330 or equivalent, THE 620 and permission of intructor.

THE 6909 (THE 696) Individual Study.
Credits: 1 to 10; Prereq: Permission of instructor and Department Chairman.

THE 6916 (THE 697) Supervised Research.
Credits: 1 to 5††; Prereq.: Permission of instructor and Department Chairman.

THE 6943 (THE 698) Supervised Teaching
Credits: 1 to 5††; Prereq: Permission of instructor and Department Chairman.

THE 6971 (THE 699) Masters Research.
Credits: 1 to 5††

URBAN AND REGIONAL PLANNING
College of Architecture

Instructional Staff 1976-77
Starnes, E.M., Director; Alexander, J.F.; Bartley, E.R.; Feiss, C.; Milliman, J.W.; Weismantel, W.; Wetterqvist, O.F.

URP 4000 (URP 402) Preview of Urban & Regional Planning.
Credits: 1 to 3

URP 6931 (URP 601) Topical Seminar.
Credits: 2 to 5

URP 6101 (URP 602) Planning Theory.
Credits: 4

URP 6102 (URP 603) Design Fundamentals.
Credits: 4

URP 6910 (URP 621) Planning and Design Research.
Credits: 1 to 9

URP 6131 (URP 622) Community Development Powers.
Credits: 3

URP 6132 (URP 623) Regulation of Land Use.
Credits: 3

URP 6811 (URP 624) Community Values and Goals.
Credits: 4

(URP 625) Land Use Planning.
Credits: 4

URP 6261 (URP 626) Regiometrics.
Credits: 4

URP 6061 (URP 628) Professional Administration.
Credits: 4

URP 6301 (URP 631) Urban Studio.
Credits: 1 to 12

URP 6311 (URP 632) Regional Studio.
Credits: 1 to 12

URP 6331 (URP 633) Component Studio.
Credits: 1 to 12

URP 6341 (URP 634) New Program Studio.
Credits: 1 to 12

URP 6700 (URP 641) The Capitol Web.
Credits: 4

URP 6821 (URP 661) Urban and Regional Systems.
Credits: 4

URP 6231 (URP 662) City Models.
Credits: 4

URP 6801 (URP 671) The Urban Ideal.
Credits: 4

URP 6802 (URP 672) 20th Century City and Regional Planning.
Credits: 4

URP 6203 (URP 681) Critical Observation.
Credits: 4

URP 6421 (URP 682) Environmental Impact Statements.
Credits: 4

URP 6915 (URP 697) Supervised Research.
Credits: 1 to 5††

URP 6981 (URP 698) Supervised Teaching.
Credits: 1 to 5††

URP 6971 (URP 699) Master's Research.
Credits: 1 to 9††

VEGETABLE CROPS

INSTRUCTIONAL STAFF 1976-77
Kelly, J.F., Chairman; Bassett, M.J.; Cantliffe, D.J.; Gull, D.D.; Hall, C.B.; Halsey, L.H.; Hannah, L.C.; Kostewicz, S.R.; Locascio, S.J.; Marlowe, G.A.; Montelaro, J.; Stephens, J.M .; Thompson, B.D.

VEC 3200 (VC 301) Vegetable Gardening. S, F.
Credits: 2
A laboratory course primarily for non-majors who need the basic principles of vegetable gardening. A garden will be required to be grown by each student

VEC 3100 (VC 302) Introduction to World's Vegetables. F, W, SS.
Credits: 3
Types of vegetables grown throughout the world

discussed with emphasis on their importance, adaptation, use, and nutritional value.

VEC 3224 (VC 310) Principles of Vegetable Production. F.
Credits: 3; Prereq. or coreq: PLS 201.
Introduction to commercial vegetable production. Laboratory covering cool-season vegetable crops.

VEC 4941 (VC 400) Full Time Practical Work Experience in Vegetable Crops. F, W, S, SS.
Credits: 1 to 4; S-U Grade only. Prereq: Prior arrangement with adviser, approval of Department Chairman and Dean.
Practical work must be a new experience and related to the field of study.

VEC 4225 (VC 409) Commercial Cool-Season Vegetable Crops. W.
Credits: 3; Prereq: VC 310 or consent of instructor.
The application of scientific principles to the production of cool-season vegetable crops.

VEC 4226 (VC 410) Commercial Warm-Season Vegetable Crops. S
Credits: 4; Prereq: VC 310.
The application of scientific principles to the production of warm-season vegetable crops. Laboratory covering the production of these crops.

VEC 4410 (VC 415) Vegetable Crops Nutrition. W.
Credits: 3; Prereq: BTY 310, BTY 311
Chemical and physiological principles of vegetable nutrition including plant requirements, nutrient sources and methods of application.

VEC 4432 (VC 420) Growth and Development of Vegetable Crops. F.
Credits: 4; Prereq: BTY 310, BTY 311
Physiological and environmental factors affecting growth and development of vegetable crops.

VEC 4452 (VC 451) Principles of Postharvest Horticulture. S.
Credits: 4; Prereq: PLS 201 or permission of instructor.
Biological principles involved in harvesting, grading, packaging, transportation, and marketing vegetable crops and their effects on quality maintenance.

VEC 4932 (VC 496) Topics in Vegetable Crops. F, W, S, SS.
Credits: 2 to 4; Maximum of 12 credits; with permission of instructor.
Selected topics in one or more fields of vegetable crops as: nutrition, varietal development, herbicides and other cultural treatments, physiology and postharvest handling. (For additional courses related to Vegetable Crops-See Plant Science.)

VETERINARY SCIENCE
College of Agriculture

Instructional Staff 1976-77

Cornelius, C.E., Chairman; Becker, H.N.; Besch, E.L.; Bradley, R.E. Sr.; Bruss, M.L.; Cardeilhac, P.T.; Cripe, W.S.; Edds, G.T.; Forrester, D.J.; Gaskin, J.M.; Gelatt, K.N.; Gronwall, R.R.; Harvey, J.W.; Himes, J.A.; Ley, K.D.; Meyerholz, G.W.; Neal, F.C.; Neilson, J.T.; Olson, G.A.; Palmore, W.P.; Popp, J.A.; Simpson, C.F.; White, F.H.

VES 3202 C (VY 321) Anatomy and Physiology of Domestic Animals. W, SS.
Credits: 5; Prereq: ZY 201 and ADP 311.
Structure and function of the skeletal, muscular, endocrine, reproductive, circulatory, respiratory, digestive, urinary and nervous systems. Laboratory to include appropriate demonstrations on these systems, particularly animal reproduction.

VES 4162 (VY 401) Poultry Diseases. W.
Credits: 3; Prereq: VY 321.
Causes, symptoms, methods of prevention and treatment of diseases of poultry.

VES 4131 (VY 405) Principles of Laboratory Animal Diseases. W.
Credits: 5; Prereq: VY 321, AL 332, 431.
Review of diseases with emphasis on their prevention and control.

VES 4611 (VY 415) Environmental Toxicology and Public Health. F.
Credits: 4; (Ident. with FS 415); Prereq.: Organic Chemistry.
Drugs and toxicants, their metabolism as influenced by food or residues; drug induced deficiency diseases; adverse reactions; mycotoxins; common poisons, their diagnosis, prevention and treatment.

VES 4113 (VY 441) Animal Diseases and their Prevention. F.
Credits: 3; Prereq: VY 321, or consent of instructor.
The principal diseases of livestock and practical methods for their prevention and control.

GRADUATE COURSES

VES 5302 (VY 562) Veterinary Parasitology 1. W.
Credits: 5; Prereq.: ZY 201, 308, 309, MCS 300, MCS 301, EY 420 or consent of instructor.

VES 5303 (VY 563) Veterinary Parasitology 2. S.
Credits: 5; Prereq: VY 562 or consent of instructor.

VES 6503 (VY 602) Veterinary Pathology.
Credits: 5

VES 6761 (VY 610) Animal Surgical Techniques.
Credits: 4

VES 6242 C (VY 622) Veterinary Physiology 1.
Credits: 5

VES 6243 C (VY 623) Veterinary Physiology 2
Credits: 5

VES 6322 (VY 624) Helminthology.
Credits: 5

VES 6342 (VY 626) Immunology of Animal Parasites.
Credits: 5

VES 6651 (VY 632) Veterinary Pharmacology 1.
Credits: 5

VES 6652 (VY 633) Veterinary Pharmacology 2.
Credits: 5

VES 6602 (VY 634) Veterinary Toxicology 1.
Credits: 5

VES 6603 (VY 635) Veterinary Toxicology 2.
Credits: 5

VES 6402 (VY 642) Veterinary Microbiology.
Credits: 6

VES 6362 (VY 663) Parasitic Diseases in the Tropics and Subtropics.
Credits: 5

VES 6765 (VY 682) Veterinary Research Techniques.
Credits: 5

VES 6931 (VY 690) Seminar in Veterinary Science.
Credits: 1

VES 6906 (VY 696) Problems in Veterinary Science.
Credits: 1 to 5

VES 6911 (VY 697) Supervised Research.
Credits: 1 to 5††

VES 6942 (VY 698) Supervised Teaching.
Credits: 1 to 5††

VES 6971 (VY 699) Master's Research.
Credits: 1 to 15††

ZOOLOGY
College of Arts and Sciences

INSTRUCTIONAL STAFF 1976-77

Emmel, T.C., Chairperson; Anderson, J.F.; Auffenberg, W.; Berner, L.; Bloom, S.A.; Brockmann, H.J.; Brodkorb, P.; Carr, A.F., Jr.; Carr, W.E.S.; Crump, M.L.; Deevey, E.S., Jr.; DeWitt, R.M.; Dickinson, J.C. Jr.; Drummond, B.A.; Feinsinger, P.; Forrester, D.J.; Giesel, J.T.; Gilbert, C.R.; Hardy, J.W.; Humphrey, S.R.; Johnson, F.C.; Johnston, D.W.; Kaufmann, J.H.; LaBarbera, M.C.; Lanciani, C.A.; Lawrence, P.O.; Lloyd, J.E.; Maturo, F.J.S., Jr.; McNab, B.K.; Nordlie, F.G.; Patton T.H.; Reiskind, J.; Schwassmann, H.O.; Thompson, F.C.; Wallbrunn, H.M.; Webb, S.D.; Westfall, M.J., Jr.; Wolff, R.G.

UNDERGRADUATE STUDENTS who intend to major in this department should plan a program in which introductory chemistry and introductory zoology laboratory are taken as early as possible in the Freshman year. The introductory zoology course has been planned so that the student will take the laboratory course (ZY 201) at least one quarter before starting the lecture course (ZY 202), which has a chemistry prerequisite of CY 201 or 211.

The minimum number of credits required for a Zoology major is 39, including the following: introductory laboratory and lecture (ZY 201 and 202 or BIO 201, 202, and 203), genetics (ZY 325), and at least one course from each of the following three sets: (a) functional vertebrate anatomy (ZY 309*), comparative chordate embryology (ZY 310); (b) vertebrate zoology (ZY 306), invertebrate zoology (ZY 308), functional vertebrate anatomy (ZY 309), general entomology (ZY 318), animal parasitology (ZY 416); (c) ecology (ZY 405), evolution (ZY 510). One year of college physics (PS 211-213-221-223), chemistry through organic (CY 381-385 or CY 362, 363, and BCH 411-412) and mathematics through MS 302 are also required. Quantitative analysis and physical chemistry are recommended. The student is advised to begin these sequences as soon as possible.

Transfer students must take a minimum of three Zoology courses at the University of Florida as part of the requirements for a major in Zoology.

DEPARTMENTAL HONORS

To quality for honors in Zoology a student must attain a 3.3 average in all Zoology work attempted and complete the following with at least a B grade: 8 credits in ZY 496. In addition, a research paper based on the ZY 496 work must be presented to and approved by the student's research advisor. This paper must contain experimental results and a discussion of those results.
*Does not satisfy both a and b.

ZY 201 and 202 or BIO 201, 202, and 203 are prerequisites for all courses in the department unless otherwise indicated.

††Grading is on a S-U basis only.

Descriptions

ZOOLOGY

ZOO 2010 C (ZY 201) Introductory Zoology Laboratory. F, W, S. SS.
Credits: 4
The anatomy, physiology, life history, and behavior of representative invertebrate and vertebrate animals.

ZOO 2011 C (ZY 202) Principles of Animal Biology. F, W, S, SS.
Credits: 5; Prereq.: ZY 201, CY 201 or 211.
Considerations of historical development of the science; cell structure and function; replication of molecules, cells and individuals; inheritance, evolution and homeostatis; and complex interrelationships among organisms and their environments.

ZOO 3303 C (ZY 306) Vertebrate Zoology. W.
Credits: 5
The evolution, taxonomy, ecology and behavior of vertebrates. Emphasis is on the adaptations of wild animals to their natural habitats.

ZOO 3803 C (ZY 307) Field Problems in Vertebrate Zoology. S.
Credits: 4; Prereq.: ZY 306.
The laboratories include field work in representative local habitats, and individual projects.

ZOO 3203 C (ZY 308) Invertebrate Zoology. F, S.
Credits: 5
The structure, taxonomy, evolutionary relationship and life histories of the invertebrate animals.

ZOO 3703 C (ZY 309) Functional Vertebrate Anatomy. F, W.
Credits: 5
The morphology of the various chordate animals are accompanied by laboratory work dealing with a selected series of chordates.

PCB 3253 C (ZY 310) Comparative Chordate Embryology. F, S.
Credits: 5
The analysis of development of chordate organ systems accompanied by laboratory work dealing with the frog, chick, and pig.

ENY 3004 (ZY 318) General Entomology. Upon Demand
Credits: 4; [Ident with EY 318]; Prereq: ZY 201, 202 or equivalent.
A general course in insect biology that considers phylogeny, anatomy, physiology, ecology and behavior of insects in the context of organic evolution. Emphasis is on processes and principles.

PCB 3673 (ZY 321) Evolution Today. F, W, S.
Credits: 3
Evolutionary theories and their historical development. Available for students in the social sciences and humanities.

BSC 3900 (ZY 322) Readings in the Biological Sciences
Credits: 3; Prereq: CBS 211, 221, 231 or ZY 201 and 202 or BTY 181 and 203.
Readings in selected contributions of biology to human thought and welfare and their application, both in the sciences and to everyday life. Available for the students in the social sciences and the humanities.

PCB 3060 C (ZY 325) Genetics. F, W, S.
Credits: 4
The course stresses fundamental properties of inheritance in eukaryotic organisms. Basic concepts are developed for the nature, organization, transmission, expression, recombination, and function of genetic materials, and principles are derived for gentically characterizing populations.

(ZY 326) Laboratory Analyses of Variation.
Credits: 2; Coreq or Prereq: ZY 325 or equivalent.
The practical application of genetical concepts in explaining the basis and inheritance of organic variation. This course provides the laboratory supplement to ZY 325.

ZOO 3513 C (ZY 371) Animal Behavior. S.
Credits: 5
The causes, origins and evolution of animal behavior emphasizing field observations and experiments on the behavior of a variety of animal groups.

PCB 4040 C (ZY 405) General Ecology. F, S.
Credits: 5, Prereq.: CY 213 and an introductory course in statistics are recommended.
Ecological factors and organization in terrestrial, freshwater and marine environments. Field work is an examination of representative biotic communities of the Gainesille area.

ZOO 4235 C (ZY 416) Animal Parasitology. F.
Credits: 5
Life cycles, morphology, and physiology of the helminth and protozoan parasites of vertebrate animals.

ZOO 4473 (ZY 454) Avian Biology. S.
Credits: 5; Prereq.: ZY 309.
The basic biological characteristics of birds which, as exceptionally unique flying vertebrates, are confronted with a spectrum of problems in terms of anatomy, physiology, behavior, migration, and population ecology.

ZOO 4926 (ZY 490) Special Topics in Zoology. F, W, S, SS.
Credits: 1 to 5; Prereq.: consent of instructor.
Lectures, conferences or laboratory sessions covering selected topics of current interests in Zoology. May be repeated for full credit with change of content.

ZOO 4905 (ZY 496) Individual Studies in Zoology. F, W, S, SS.
Credits: 4; Prereq.: A 3.0 overall honor point average and a 3.0 in at least 24 hours of approved major courses in zoology, and consent of instructor and head of department.
Qualified students and the instructor concerned may choose a particular topic or problem for study. May be repeated for full credit.

GRADUATE COURSES

ZOO 5115 C (ZY 507) Vertebrate Paleontology. F.
Credits: 4; (Ident with GY 507) Prereq.: ZY 309 or GY 304.

PCB 5675 (ZY 510) Evolution. F.
Credits: 5; Prereq: ZY 201-202 or BTY 181 and ZY 325 or AY 362-363.

ZOO 5755 C (ZY 521) Comparative Histology. W.
Credits: 5; Prereq.: ZY 309.

PCB 5415 (ZY 529) Behavioral Ecology. F.
Credits: 5; Prereq.: ZY 307 or ZY 405.

BSC 5105 (ZY 542) History of the Biological Sciences.
Credits: 3; Prereq.: Junior standing required for admission to the course.

PCB 5545 C (ZY 545) Physiological Genetics.
Credits: 4; Prereq.: ZY 325 or equivalent.

APB 5415 (ZY 565) Radioisotope Theory and Techniques. W.
Credits: 5; [Ident with BTY 565, NES 585, and MED 565] Prereq: CY 331 or consent of instructor.

PCB 5745 (ZY 574) Animal Physiology. F,S.
Credits: 6; Prereq: General Physics or Instructor's permission.

ZOO 5405 C (ZY 579) The Biology of Marine Animals. S.
Credits: 4: Prereq: CY 373, PS 213, ZY 405.

PCB 6357 (ZY 605) Tropical Biology - An Ecological Approach. W,SS.
Credits: 12

ZOO 6116 C (ZY 607) Ancient Vertebrate Faunas. S.
Credits: 4; (Ident with CY 607).

PCB 6935 (ZY 608) Seminar in Evolution. W.
Credits: 4; (Ident with GY 608).

ZOO 6816 C (ZY 609) Zoogeography. F.
Credits: 3

ZOO 6857 C (ZY 610) Advanced Tropical Zoology. SS.
Credits: 12

PCB 6317 C (ZY 612) Marine Ecology. F.
Credits: 5

ZOO 6246 C (ZY 624) Helminthology. W.
Credits: 5; (Ident with VY 624).

PCB 6447 C (ZY 626) Community Ecology. S.
Credits: 5

PCB 6496 (ZY 627) Stream Ecology.
Credits: 5

PCB 6307 C (ZY 628) Liminology. S.
Credits: 5

PCB 6049 (ZY 629) Seminar in Ecology. F,W,S.
Credits: 2

ZOO 6207 C (ZY 632) Advanced Invertebrate Zoology.
Credits: 5

ZOO 6336 C (ZY 633) Principles of Systematic Zoology.
Credits: 4

(ZY 636) Survey of Sensory Systems. F.
Credits: 4; [Ident with MED 636 and PSY 678]; Prereq.: ZY 574 or MED 623 or 331 or 767 or PSY 600.

(ZY 637) Research Methods in the Sensory Systems. W.
Credits: 4; max: 8 [Ident with MED 627 and PSY 670]; Prereq.: MED 636 or PSY 678 or ZY 636.

(ZY 638) Seminar in Sensory Processes. S.
Credits: 1††; [Ident wih MED 639 and PSY 676]

PCB 6377 C (ZY 642) Physiological Ecology. F.
Credits: 5

PCB 6796 (ZY 644) Comparative Sensory Physiology. W.
Credits: 5

ZOO 6456 C (ZY 651) Ichthyology. S.
Credits: 5

ZOO 6466 C (ZY 652) Herpetology. W.
Credits: 5

ZOO 6486 C (ZY 653) Mammalogy. F.
Credits: 5

ZOO 6476 C (ZY 654) Ornithology. W.
Credits: 4

PCB 6069 (ZY 664) Topics in Genetics.
Credits: 2 to 4

††Grading is on a S-U basis only.

PCB 6577 C (ZY 665) Ecological Genetics. F.
Credits: 5

(ZY 666) Historical Ecology of the Pleistocene. F.
Credits: 4; [Ident with APY 666, BTY 666 and GY 666.]

PCB 6427 C (ZY 667) Theoretical Population Ecology.W.
Credits: 5

PCB 6437 C (ZY 668) Field Population Ecology. S.
Credits: 5

ZOO 6506 C (ZY 671) Ethology. S.
Credits: 4

ZOO 6939 (ZY 673) Seminar in Animal Behavior.
Credits: 4

ZOO 6927 (ZY 690) Special Topics in Zoology. F,W,S.
Credits: 4

ZOO 6907 (ZY 696) Individual Studies in Zoology. F,W,S,SS.
Credits: 1 to 5

ZOO 6917 (ZY 697) Supervised Research.
Credits: 1 to 5††

ZOO 6946 (ZY 698) Supervised Teaching.
Credits: 1 to 5††

ZOO 6915 (ZY 699) Master's Research.
Credits: 1 to 15††

ZOO 7918 (ZY 799) Doctoral Research.
Credits: 1 to 15††

GRADUATE COURSES

Graduate courses are available to those undergraduate students qualified to enroll in them. A limited number of these couses may be used as partial fulfillment of the elective portion of the student's program of study. Students electing to enroll in graduate courses will be required to pay graduate fees for those courses.

††Grading is on a S-U basis only.

OFFICERS OF INSTRUCTION RESEARCH, ADMINISTRATION AND EXTENSION
1976-1977

(The first date indicates the first year of academic employment; the last date, the year of present rank; the asterisk represents interruptions in service or leave of absence; †denotes Veterans Administration Hospital staff.)

ABBITT, BENNETT, M.S. (University of Georgia)
Assistant Professor (Area Farm Management Economist) IFAS, AREC, Lake Alfred (1974-1976).

ABBOTT, ELIZABETH, F., Ph.D. (University of Florida)
Assistant Professor of Physical Sciences and Director of Florida Foundation for Future Scientists (1973-1973)..

ABBOTT, THOMAS BENJAMIN, Ph.D. (University of Florida)
Professor of Speech and Communicative Disorders (1963-1976).

ABBOTT, WESLEY WENDELL, M.Ed.
Instructor, P.K. Yonge Laboratory School (1958-1962).

ABRAMS, ROBERT M., Ph.D., D.D.S. (Univ. of Pennsylvania)
Associate Professor, Obstetrics and Gynecology (1969-1974).

ACHEY, PHILLIP M., Ph.D. (Pennsylvania State University)
Associate Professor, Microbiology and Cell Science, Arts and Sciences (1967-1975).

ADAMS, CALVIN K., Ph.D. (Kansas State University)
Assistant Professor of Ophthalmology and Psychology (1969-1969).

ADAMS, DONALD H., JR., M.Ed.
Residence Life Coordinator, Student Housing (1973-1973).

ADAMS, EARNEST DWIGHT, Ph.D. (Duke University)
Professor of Physics (1962-1970).

ADAMS, ELWYN A., M.M.
Associate Professor of Music (1970-1972).

ADAMS, JOHN E., M.D. (Cornell University Medical College)
Professor and Chairperson, Department of Psychiatry (1974-1974).

ADAMS, SANDRA P., M.O.T. (U. of Florida)
Instructor of Occupational Therapy (1975-1975).

ADERHOLDT, ROBERT W., Ph.D. (Georgia Inst. of Technology)
Assistant Professor of Building Construction (1972-1972).

ADLERZ, WARREN CLIFFORD, Ph.D. (Oregon State University)
Professor (Entomologist), IFAS, Agricultural Research Center, Leesburg (1958-1974).

AGEE, HERNDON ROYCE, Ph.D. (Tufts University)
Associate Professor (Associate Entomologist), IFAS, USDA (1973-1973).

AGEE, O. FRANK, M.D. (Louisiana State University)
Professor of Radiology (1962-1970).

AGRESTI, ALAN G., Ph.D. (University of Wisconsin)
Assistant Professor of Statistics (1972-1972).

AGRESTI, BARBARA F., Ph.D. (University of Florida)
Assistant Professor of Sociology (1976-1976).

AHMED, ESAM MAHMOLD, Ph.D. (University of Maryland)
Professor (Food Scientist), IFAS (1964-1973).

AHTOLA, OLLI T., Ph.D. (University of Illinois)
Assistant Professor of Marketing (1973-1973).

AJINKYA, BIPIN B., Ph.D. (University of Minnesota)
Assistant Professor of Accounting (1975-1975).

ALBREGTS, EARL EUGENE, Ph.D. (Purdue University)
Associate Professor, IFAS, Agricultural Research Center, Dover (1967-1973).

ALBRIGO, LEO GENE, Ph.D. (Rutgers University)
Associate Professor (Associate Horticulturist), IFAS, Agricultural Research and Education Center, Lake Alfred (1968-1974).

ALDRICH, HENRY CARL, Ph.D. (University of Texas)
Professor, Microbiology and Cell Science, Arts and Sciences (1966-1976).

ALDERSON, THOMAS H., D.D.S. (University of Tennessee)
Associate Professor of Removable Prosthodontics, College of Dentistry (1976-1976).

ALEXANDER, ALICE ELIZABETH, B.S. In L.S.
Librarian and Chairperson, P.K. Yonge Library of Florida History (1951-1976). *

ALEXANDER, JOHN FRANKLIN, JR., P.E., M.S.
Associate Professor of Architecture (1975-1975).

ALEXANDER, LEONARD J., Ph.D. (University of Wisconsin)
Visiting Professor in Plant Pathology, IFAS (1969-1969).

ALEXANDER, MYRL E., A.B. (Manchester College), LL.D. (Pacific Lutheran University), L.H.D. (Susquehanna Univ.)
Professor of Political Science, Sociology and Psychology (1974-1974).

ALEXANDER, RAYMOND H., M.D. (Duke University)
Assistant Professor of Surgery, VAH (1976-1976).

ALEXANDER, RONALD W., M.D. (Tulane University)
Associate Professor of Pathology, VAH (1972-1972).

ALEXANDER, RUTH HAMMACK, Ed.D. (University of Indiana)
Professor of Physical Education (1969-1974).

ALEXANDER, SAMUEL KERN, Ed.D. (University of Indiana)
Professor of Education (1968-1970).

ALEXANDER, WILLIAM MARVIN, Ph.D. (Columbia University)
Professor and Chairperson in Instructional Leadership and Support (1963-1975).

ALFIERI, SALVATORE ANTHONY, JR., Ph.D. (Cornell University)
Associate Plant Pathologist, Division of Plant Industry (1968-1968).

ALGOZZINE, ROBERT FRANCIS, Ph.D. (Pennsylvania State University)
Assistant Professor of Special Education (1976-1976).

ALLEN, BILLY JAY, M.A. (University of Florida)
Associate Professor, (Extension 4H-Youth Specialist), IFAS, (1953-1968). *

ALLEN, CHARLES, Ph.D. (Brandeis)
Associate Professor of Biochemistry and Molecular Biology (1967-1973).

ALLEN, DON L., D.D.S. (University of North Carolina), M.S. (University of Michigan)
Dean and Professor of Periodontics, College of Dentistry (1970-1974).

ALLEN, GEORGE E., Ph.D. (Mississippi State University)
Professor of Entomology, IFAS (1971-1971).

ALLEN, JEFFNER M., Ph.D. (Duquesne University)
Assistant Professor of Philosophy (1974-1974).

ALLEN, JOHN JAY, Ph.D. (University of Wisconsin)
Professor of Spanish (1960-1972).

ALLEN, JON C., Ph.D. (U. of California, Riverside)
Assistant Professor (Assistant Entomologist) IFAS, AREC-Lake Alfred (1973-1974).

ALLEN, LEON HARTWELL, JR., Ph.D. (Cornell University)
Assistant Professor (Soil Scientist), IFAS, USDA, (1974-1974).

ALLEN, ROBERT EUGENE, Ed.D. (University of Florida)
Associate Professor of Professional Physical Education (1968-1973).

ALLEN, ROBERT JOHN, JR., Ph.D. (University of Maryland)
Assistant Professor (Assistant Agronomist) IFAS, Agricultural Research and Education Center, Belle Glade (1950-1950).

ALLEN, WILLIAM C., M.D. (University of Chicago)
Professor in Orthopaedic Surgery (1966-1976).

ALLENDE, NELIA J., M.D. (University of Chile)
Instructor, Community Health and Family Medicine, JHEP (1975-1975).

ALLIGOOD, EDGAR RALEIGH, M.Ed. (University of Florida)
Director, Department of Independent Study by Correspondence, Division of Continuing Education (1965-1965).

ALLISON, JAMES C., Ed.M. (Harvard U.)
Affirmative Action Coordinator (1975-1975).

ALTIZER, ALMA B., Ph.D. (Emory University)
Assistant Professor of Humanities and Literature (1974-1974).

AMATEA, ELLEN S., Ph.D. (Florida State University)
Assistant Professor of Education (1974).

AMBROSE, EDNA VIRGINIA, Ed.D. (Columbia University)
Associate Professor of Education (1958-1958).

AMMERMAN, CLARENCE BAILEY, Ph.D. (University of Illinois)
Professor (Animal Nutritionist), IFAS (1958-1970).

ANDERSEN, THORKILD W., M.D. (University of Copenhagen)
Professor of Anesthesiology (1958-1969).

ANDERSON, ARVID A., Ph.D. (University of Texas)
Assistant Professor of Marketing (1965-1965).

ANDERSON, BARBARA JOY, B.S.C. (Utah State University)
Assistant Professor of English (1973-1973).

ANDERSON, CARL ANDREW, Ph.D. (Iowa State University)
Associate Professor (Associate Soils Chemist), IFAS, Agricultural Research and Education Center, Lake Alfred (1962-1968).

ANDERSON, CARL ARTHUR, M.B.A., C.P.A. (University of Florida)
Assistant Professor of Accounting (1947-1950).

ANDERSON, JAMES W., M.B.A.
Assistant Professor in Journalism and Communications (1973-1974).

ANDERSON, JOHN F., Ph.D. (University of Florida)
Associate Professor of Zoology (1968-1974).

ANDERSON, RICHARD JAMES, Ph.D. (University of Michigan)
Professor of Psychology; Associate University Counseling Center (1943-1956).

ANDERSON, ROLAND CARL, Ph.D. (University of Florida)
Professor of Engineering Sciences (1961-1974). *

ANDRESEN, BRIAN DEAN, Ph.D. (Massachusetts Institute of Technology)
Assistant Professor of Pharmaceutical Chemistry (1974-1974).

ANDREW, CHRIS O. Ph.D. (Michigan State University)
Associate Professor (Associate Agricultural Economist), IFAS, (1971-1971).

ANDREW, RAYMOND C., Ph.D. (Purdue University)
Associate Professor and Director of Personnel Affairs, IFAS, (1973-1973).

ANDREWS, C. P., Ph.D. (Louisiana State University)
Assistant Professor (Assistant Horticulturalist), IFAS, Agricultural Research Center, Monticello (1975-1975).

ANDREWS, SAMUEL DALTON, Ph.D. (University of Florida)
Assistant Professor of Education (1969-1969).

ANDRIOLA, MARY R., M.D. (Duke University)
Associate Professor of Neurology (1974-1974).

ANGORN, RICHARD ARTHUR, J.D. (University of Florida)
Associate Professor of Pharmacy and Associate Chairman, Pharmacy (1968-1973).

ANNIS, JOSEPH PAYNE, M.D. (Marquette School of Medicine)
Instructor of Anesthesiology (1975-1975).

ANTHONY, DARRELL WAYNE, M.S. (University of Florida)
Adjunct Assistant Professor (1974-1974).

ANTHONY, DAVID SALISBURY, Ph.D. (University of Wisconsin)
Professor of Botany, Arts and Sciences (1955-1972).

ANTONINI, GUSTAVO A., Ph.D. (Columbia University)
Associate Professor of Latin American Studies and Geography (1970-1970).

ANTONSON, DONALD E., D.D.S. (Loyola University)
Assistant Professor of Community Dentistry, College of Dentistry, (1975-1975).

APP, JAMES L., Ph.D. (University of Wisconsin)
Assistant Research Scientist and Assistant Dean for Agricultural Programs, IFAS (1973-1975).

APPLEDORF, HOWARD, Ph.D. (Mass. Institute of Technology)
Associate Professor (Associate Nutritionist), IFAS, (1969-1974).

ARAFA, ABDEL-MONIEM S., Ph.D. (Mississippi State University)
Assistant Professor (Department of Poultry Science), IFAS (1975-1975).

ARANETA, ENRIQUE, M.D. (University of the Philippines)
Associate Professor of Psychiatry, VAH (1973-1974).

ARAUJO, OSCAR EDUARDO, Ph.D. (Purdue University)
Professor of Pharmacy (1962-1974).

ARAUJO, PAUL EDWARD, Ph.D. (Brown University)
Assistant Professor (Assistant Nutritionist), IFAS, (1974-1974).

ARCHER, BEVERLY B., Ph.D. (Ohio State University)
Associate Professor and Assistant Dean, (FAMU) IFAS (1972-1972).

ARCHER, WAYNE R., Ph.D. (Indiana University)
Assistant Professor of Real Estate and Urban Analysis (1971-1971).

ARDITTI, FRED D., Ph.D. (MIT)
Professor of Finance (1971-1973). *

AREY, SANDRA S., Ph.D. (U. of Florida)
Assistant Professor of Sociology in Psychiatry (1976-1976).

ARIET, MARIO, Ph.D. (University of Florida)
Associate Professor, Community Health and Family Medicine and Department of Medicine (1967-1973).

ARMSTRONG, HELENJANE, M.L.S. (University of Oklahoma)
Associate Librarian, Reference and Bibliography (1973-1973).

ARNOLD, CALVIN EUGENE, Ph.D. (Michigan State University)
Associate Professor (Associate Horticulturist) and Center Director, IFAS, Agricultural Research Center, Monticello (1969-1974).

ARRINGTON, LEWIS ROBERTS, Ph.D. (University of Florida)
Professor of Animal Science and Animal Nutritionist, IFAS, (1946-1967). *

ARVANITIS, LOUKAS G., Ph.D. (University of California)
Professor (Forest Mensuration), IFAS (1976-1976).

ASHLEY, THOMAS ROBERT, Ph.D. (University of California, Riverside)
Assistant Professor (Assistant Entomologist), USDA, IFAS, (1973-1973).

ASHTON, DUB, Ph.D. (Univ. of Georgia)
Visiting Professor of Marketing (1975-1975).

ASHTON, PATRICIA TEAGUE, Ph.D. (University of Georgia)
Assistant Professor of Education (1974).

ASHTON, RAY EDWIN, JR., M.A.
Associate in Museum Education, Florida State Museum (1975-1975).

ASQUITH, RICHARD LAVERNE, D.V.M. (Michigan State Univ.)
Associate Professor of Equine Health, IFAS (1975-1975).

ATTAWAY, JOHN A., Ph.D. (Duke University)
Adjunct Professor (Chemist), IFAS, DC, AREC-Lake Alfred (1959-1969).

AUBIN, CAROL, B.S. (University of Florida)
Women's Sports Information Director (1975-1975).

AUFFENBERG, WALTER, Ph.D. (University of Florida)
Curator of Herpetology, Florida State Museum and Professor of Zoology (1956-1968). *

AUGUSTINE, JIMMY JUDE, Ph.D. (University of California)
Assistant Professor (Assistant Geneticist), IFAS, Agricultural Research and Education Center, Bradenton (1975-1975).

AUXTER, THOMAS P., Ph.D. (Bryn Mawr College)
Assistant Professor of Philosophy (1973-1973).

AVILA, DONALD LEE, Ed.D. (University of Nebraska)
Professor of Education (1963-1970).

AXELSON, JULEIN MARIE, M.S. (Florida State University)
Assistant Professor (Assistant Nutritionist), (FAMU) IFAS, (1973-1973).

AYOUB, ELIA M., M.D. (American University of Beirut)
Professor of Pediatrics and Professor of Immunology and Medical Microbiology (1969-1971).

BACHMAN, KERMIT C., Ph.D. (University of Maryland)
Assistant Professor (Biochemist), IFAS (1971-1971).

BACON, PHILIP, Ph.D. (University of Tennessee)
Associate Professor of Mathematics (1965-1968).

BADGER, LYNN, M.L.S. (Florida State University)
Assistant Librarian, Reference and Bibliography (1974-1975).

BAER, HERMAN, M.D. (Basel)
Director of Clinical Microbiology and Associate Professor of Pathology and Immunology and Medical Microbiology (1966-1970).

BAGGETT, JAMES C., JR., M.D. (Medical College of Georgia)
Assistant Professor of Community Health and Family Medicine (1975-1975).

BAGNELL, LARRY OWEN, Ph.D. (Cornell University)
Associate Professor (Associate Agricultural Engineer), IFAS, (1969-1974).

BAIG, MIZRA M., Ph.D. (State University of New York)
Assistant Professor of Pediatrics (1975-1975).

BAILEY, DONALD L., Ph.D. (Oklahoma State University)
Adjunct Professor (1970-1970).

BAILEY, K. EDWIN, Ph.D. (University of North Carolina), C.P.A. (Florida)
Assistant Professor of Accounting (1976-1976).

BAILEY, ROBERT LEO, M.S.E.
Associate Professor of Electrical Engineering (1960-1972).

BAILEY, RONALD BERESFORD, Ph.D. (University of Illinois)
Associate Professor of Social Sciences and Political Sciences (1971-1971). *

BAILEY, THOMAS LEE, III, Ph.D. (University of Chicago)
Professor of Physics and Electrical Engineering (1953-1963).

BAIRD, BRIDGET BOS, Ph.D. (State University of New York at Buffalo)
Visiting Assistant Professor of Mathematics (1976-1976).

BAIRD, CARL DIRELLE, Ph.D. (University of Florida)
Associate Professor (Associate Agricultural Engineer) IFAS (1968-1976).

BAKER, AMANDA S., Ph.D. (University of Florida)
Assistant Dean, Undergraduate Program and Associate Professor, College of Nursing (1974-1974).

BAKER, FRANK SLOAN, JR., M.S.A. (University of Florida)
Professor, (Animal Husbandman), IFAS, Agricultural Research and Education Center, Quincy (1945-1963).

BAKER, SUSAN READ, Ph.D. (Harvard University)
Assistant Professor of French (1976-1976).

BAKER, MELVIN CHARLES, Ed.D. (University of Illinois)
Professor of Education and Assistant Dean, College of Education (1952-1963).

BALANOFF, NEAL, Ph.D. (Northwestern University)
Director of Learning Resources Center, J. Hillis Miller Health Center, and Professor of Dental Education, College of Dentistry and Professor of Pharmacy (1973-1973).

BALDRIDGE, BARBARA LOU, Ph.D. (University of Illinois)
Assistant Professor (1973-1973).

BALDWIN, FLETCHER NATHANIEL, JR., LL.M.
Professor of Law (1962-1968).

BALDWIN, LLOYD BARRINGTON, M.Ag.
Assistant Professor (Assistant Agricultural Engineer) IFAS, (1967-1967).

BALDWIN, NANCY T., Ed.D. (University of Florida)
Assistant Professor of Education, P.K. Yonge Laboratory School (1970-1970).

BALL, JAMES D., M.D. (Northwestern University)
Assistant Professor of Radiology (1976-1976).

BALL, JOE CROCKETT, Ph.D. (University of California, Berkeley)
Assistant Professor (Assistant Entomologist), IFAS, Agricultural Research Center, Monticello (1974-1974).

BALL, JOSEPH EDWARD, M.S.
Business Manager I, Division of Housing (1970-1977).

BALLARD, STANLEY SUMNER, Ph.D. (University of California)
D.Sc., Professor of Physics (1958-1958).

BANKS, JOHN, M.Ed.
Teacher, P.K. Yonge Laboratory School (1972-1972).

BANTLEON, GEORGE F., M.D. (University of Rochester)
University Physician (1972-1972).

BARANOWSKI, RICHARD MATTHEW, Ph.D. (University of Connecticut)
Professor (Entomologist), IFAS, Agricultural Research and Education Center, Homestead (1956-1967).

BARBOSA, JERRY L., M.D. (University of Madrid)
Assistant Professor of Pediatrics (1976-1976).

BAREFIELD, RUSSELL M., Ph.D. (Ohio St. Univ), C.P.A. (Texas)
Matherly Professor of Accounting (1976-1976).

BARGER, BENJAMIN, Ph.D.
Chief, Student Mental Health Service, Professor of Psychology and Clinical Psychology.

BARINGER, WILLIAM ELDON, Ph.D. (University of Illinois)
Professor of Social Sciences and History (1947-1949).

BARKSDALE, E.C., Ph.D. (Ohio State University)
Assistant Professor of Russian (1972-1972).

BARMORE, CHARLES R., Ph.D. (University of Florida)
Assistant Professor (Assistant Horticulturist) IFAS, AREC-Lake Alfred (1972-1972).

BARNARD, GEORGE W., M.D. (University of North Carolina at Chapel Hill)
Associate Professor of Psychiatry, VAH (1963-1968).

BARNETT, RONALD DAVID, Ph.D. (Purdue University)
Associate Professor (Associate Agronomist), IFAS, Agricultural Research and Education Center, Quincy (1970-1975).

BARRICK, WILLIAM EDGAR, Ph.D. (Michigan State University)
Assistant Professor (Ornamental Horticulturist), IFAS (1976-1976).

BARRON, RODGER W., B.A.
Adjunct Assistant in Chemistry, IFAS, DC, AREC-Lake Alfred (1956-1976).

BARRY, CHRISTOPHER B., D.B.A. (Indiana University)
Associate Professor of Management (1973-1976).

BARTHOLIC, JON F., Ph.D. (South Dakota State University)
Professor (Climatologist), IFAS (1971-1976).

BARTLETT, MARION CLEMENT, M.E.E.
Associate Engineer in Electrical Engineering (1970-1976).

BARTLEY, ERNEST R., Ph.D. (University of California)
Professor of Political Science and Urban and Regional Planning (1949-1955).

BARTON, PAULINE HINTON, Ed.D. (University of Florida)
Professor, College of Nursing (1959-1973).

BARTZ, JERRY A., Ph.D. (University of Wisconsin)
Associate Professor (Assistant Plant Pathologist), IFAS (1969-1969).

BASMAN, HERSY GRANT, Ph.D. (Cornell University)
Assistant Professor, (Assistant Plant Pathologist), IFAS, Agricultural Research Center, Ft. Lauderdale (1976-1976).

BASS, RONALD K., Ph.D. (Michigan State University)
Assistant Professor in Education (1972-1972).

BASSETT, MARK JULIAN, Ph.D. (University of Maryland)
Assistant Professor (Horticulturist), IFAS, (1970-1970).

BATES, ROBERT PARKER, Ph.D. (M.I.T.)
Associate Professor (Associate Food Scientist) (1967-1974).

BATES, ROGER GORDON, Ph.D. (Duke University)
Professor of Chemistry (1969-1969).

BATES, STANLEY RAYMOND, Ph.D. (University of Florida)
Assistant Engineer in Materials Science and Engineering (1969-1973).

BATTISTE, MERLE ANDREW, Ph.D. (Columbia University)
Professor of Chemistry (1961-1970).

BAUGHMAN, RONALD A., D.D.S. (Medical College of Virginia) M.S.D. (Indiana University)
Associate Professor of Oral Medicine, College of Dentistry (1971-1974).

BAUM, ERIC A., M.D. (University of Michigan)
Associate Professor, Chief, Div. of Child Psychiatry and Director, Children's Mental Health Unit (1975-1975).

BAUMER, G. HARRY, III, B.S.B.A. (University of Florida)
Director of Purchasing (1965-1966).

BAXTER, JOHN FRANKLIN, Ph.D. (Johns Hopkins), Honorary D.SC. (Bethany)
Distinguished Service Professor of Chemistry (1952-1974). *

BAYLEY, SUZANNE E., Ph.D. (Johns Hopkins University)
Assistant Professor of Environmental Engineering Sciences (1973-1973).

BAZER, FULLER WARREN, Ph.D. (North Carolina University)
Associate Professor (Associate Animal Physiologist), IFAS (1968-1973).

BEARDSLEY, DANIEL WALDO, Ph.D. (University of Illinois)
Professor (Animal Nutritionist), IFAS, Agricultural Research and Education Center, Belle Glade (1949-1968). *

BECHT, PAUL A., M.Ed. (University of Florida)
Assistant Professor, P.K. Yonge (1968-1975).

BECHTEL, GORDON G., Ph.D. (University of Michigan)
Professor of Marketing (1974-1974).

BECK, WILLIAM M., JR., M.S. (University of Florida)
Associate Professor (Associate Entomologist), (FAMU), IFAS (1973-1973).

BECKER, CHARLES HENRY, Ph.D. (University of Florida)
Professor of Pharmacy and Assistant Dean for Student Affairs (1974-1974)

BECKER, H. NEIL, D.V.M., M.S. (University of Illinois)
Associate Professor (Associate Veterinarian), College of Veterinary Medicine IFAS, (1974-1974).

BEDNAREK, ALEXANDER ROBERT, Ph.D. (University of Buffalo)
Professor of Mathematics and Chairperson of Department (1963-1969).

BEEGHLEY, LEONARD, Ph.D. (University of California)
Assistant Professor of Sociology (1973-1973).

BEEMAN, CARL EDGAR, Ed.D. (Cornell University)
Associate Professor and Chariperson, Agriculture and Extension Education (1967-1975).

BEIRNE, RAYMOND MICHAEL, M.A.
Associate Professor of English (1954-1969).

BEISTLE, MARGARET R., M.A.
Assistant Dean for Student Services (1964-1975).

BELAR, CYNTHIA D., Ph.D. (Ohio University)
Assistant Professor of Clinical Psychology and Psychology (1974-1976).

BELL-NETHANIEL, AFESA, Ph.D. (University of Utah)
Acting Chairperson and Assistant Professor of Behavioral Studies and Psychology (1974-1974).

BENGSTON, GEORGE W., Ph.D. (Yale University)
Associate Professor, TVA, IFAS, (1968-1968).

BENGSTON, JOHN KONSTANT, Ph.D. (University of Toledo)
Assistant Professor of Education (1974).

BENNETT, CARROLL G., D.D.S., M.S. (Medical College of Virginia)
Professor and Chairman of Pediatric Dentistry, College of Dentistry (1973-1974).

BENNETT, GERALD THOMAS, J.D. (University of Florida)
Professor of Law (1968-1974). *

BENNETT, MARGARET HELEN, Ph.D. (University of Denver)
Adjunct Assistant Professor (Assistant Chemist) IFAS, DC, AREC-Lake Alfred (1974-1974).

BENNETT, ROBERT BROADHURST, Ph.D. (Purdue University)
Professor of Chemical Engineering (1953-1953). *

BENNINGER, LAWRENCE J., Ph.D. (University of Missouri)
Professor of Accounting (1956-1959).

BENSON, LESTER LEON, B.S. (Millsaps College)
Adj. Assistant Professor (Assistant Meteorologist) IFAS, NWS Agricultural Research Center, Lakeland (1956-1956).

BENSON, ROY T., B.A.
Asst. Head Track Coach (1969-1972).

BENTLEY, GEORGE ROBERT, Ph.D. (University of Wisconsin)
Professor of Social Sciences and History (1938-1972).

BERARDO, FELIX M., Ph.D. (Florida State University)
Professor and Associate Chairperson of the Department of Sociology (1969-1973).

BERG, SANFORD V., Ph.D. (Yale University)
Associate Professor of Economics (1971-1976).

BERG, WILLIAM KEITH, Ph.D. (University of Wisconsin)
Associate Professor of Psychology (1973-1976).

BERGER, RICHARD DONALD, Ph.D. (University of Wisconsin)
Professor (Plant Pathologist), IFAS (1967-1976).

BERGMAN, JAY, M.A. (Appalachian State)
Head Baseball Coach (1975-1975).

BERKSON, LARRY C., Ph.D. (University of Wisconsin)
Assistant Professor of Political Science (1973-1973).

BERNARD, DONALD HARRY, Ed.D. (Columbia University)
Associate Professor of Education (1969-1976).

BERNER, LEWIS, Ph.D. (University of Florida)
Professor of Zoology and Entomology (1946-1970).

BERNS, KENNETH I., M.D., Ph.D. (Johns Hopkins University)
Professor and Chairman of Immunology and Medical Microbiology (1976-1976).

BERNSTEIN, JERALD J., Ph.D. (University of Michigan)
Professor of Neuroscience and Opthalmology (1965-1976).

BERTRAND, JOSEPH E., Ph.D. (Louisiana State University)
Associate Professor (Associate Animal Scientist), IFAS Agricultural Research Center, Jay (1966-1966).

BESCH, EMERSON L., Ph.D. (University of California at Davis)
Professor of Physiology and Associate Dean, College of Veterinary Medicine and Professor, Department of Veterinary Science and Mechanical Engineering (1974-1975). *

BETHEA, SALLY BROOK, M.L.S.
Associate Librarian, Catalog (1959-1970).

BEVIS, HERBERT ANDERSON, Ph.D. (University of Florida)
Professor of Environmental Engineering Sciences (1961-1974).

BEVIS, HINTON F., B.S.P.
Assistant Professor of Pharmacy (1973-1973).

BEYERCHEN, ALAN D., Ph.D. (University of California, Santa Barbara)
Adjunct Assistant Professor of History (1976-1976).

BEYETTE, THOMAS K., Ph.D. (University of Texas at Austin)
Associate Professor of English (1969-1974).

BIAMONTE, RICHARD LEWIS, Ph.D. (Corness University)
Assistant Professor (Extension Ornamental Horticulturist), IFAS (1976-1976).

BICNFORD, DAVID M., B.B.A., C.I.A. (Eastern New Mexico Univ)
Director, Office of Internal Control (1964-1975).

BIEBER, JOHN L., Ph.D. (University of Florida)
Assistant Research Scientist, International Programs, IFAS, El Salvador (1974-1974).

BIERY, JOHN CARLTON, Ph.D. (Iowa State University)
Professor of Chemical Engineering and Chairperson of the Department (1971-1971).

BIGELOW, GORDON ELLSWORTH, Ph.D. (Johns Hopkins University)
Professor of English (1951-1967). *

BIGHAM, JERRY L., B.A. (Florida State Univ)
Computer Research Specialist (1976-1976).

BIGGS, ROBERT HILTON, Ph.D. (Purdue University)
Professor and Chairman for Fruit Crops (Biochemist), IFAS (1957-1969).

BIGGS, THOMAS S., JR., L.L.B.
University Attorney (1969-1969)

BILL, ROBERT G. JR., Ph.D. (Cornell University)
Assistant Research Scientist in Fruit Crops, IFAS (1976-1976).

BILLMIRE, EDWIN W., Ph.D. (City University of New York)
Instructor in Immunology and Medical Microbiology (1975-1975).

BINGHAM, HAL G., M.D. (University of Kansas)
Professor of Surgery and Chief of Plastic and Reconstructive Surgery (1972-1972).

BIRDSELL, DALE C., Ph.D. (University of California)
Associate Professor of Basic Dental Sciences, College of Dentistry and Associate Professor, Department of Immunology and Medical Microbiology, College of Medicine (1974-1976).

BISHOP, BERNAYS E.
Golf Coach, Course Manager (1967-1973).

BISHOP, JOHN P., Ph.D. (Texas A & M University)
Assistant Research Scientist, International Programs, IFAS, INIAP, Ecuador (1972-1972).

BITTON, GABRIEL, Ph.D. (Hebrew University)
Assistant Professor of Environmental Engineering Sciences (1974-1974).

BLACK, HAROLD A., Ph.D. (Ohio State University)
Assistant Professor of Economics (1971-1971). *

BLACK, ROBERT JOHN, Ph.D. (University of Tennessee)
Assistant Professor (Extension Ornamental Horticulturalist), IFAS (1975-1975).

BLAIR, JAMES G., B.S.M.E. (North Carolina State College)
Adjunct Associate Professor (Associate Mechanical Engineer) IFAS DC, AREC-Lake Alfred (1962-1962).

BLAIR, ROGER DUNCAN, Ph.D. (Michigan State University)
Associate Professor of Economics (1970-1974).

BLAIR, TIMOTHY RAWLINGS, Ph.D. (University of Illinois)
Assistant Professor of Instructional Leadership and Support (1976-1976).

BLAKESLEEE, GEORGE M., Ph.D. (Duke University)
Assistant Professor, (Forest Pathology), IFAS (1976-1976).

BLAKEY, ARCH FREDERIC, Ph.D. (Florida State University)
Associate Professor of Social Sciences and History (1969-1974).

BLANCHARD, FRANK NELSON, Ph.D. (University of Michigan)
Professor of Geology (1958-1976).

BLAZQUEZ, CARLOS H., Ph.D. (University of Florida)
Associate Professor (Associate Plant Pathologist), IFAS Agricultural Research Center, Immokalee (1966-1972).

BLEIWEIS, ARNOLD S., Ph.D. (Pennsylvania State University)
Associate Chairperson and Professor, Microbiology and Cell Science, Arts and Sciences; Microbiologist, IFAS (1967-1976).

BLEVINS, DONALD KING, Ph.D. (University of Michigan)
Assistant Professor of Mathematics (1972-1972).

BLOCK, ALAN JAY, M.D. (Johns Hopkins University)
Professor and Chief of Pulmonary Medicine, VAH, Anesthesiology and Medicine (1970-1973).

BLOCK, EDWARD R., M.D. (Johns Hopkins School of Medicine)
Assistant Professor of Medicine (1975-1975).

BLOCK, LOUIS, Ph.D. (Northwestern)
Assistant Professor of Mathematics (1973-1973).

BLOCK, SEYMOUR STANTON, Ph.D. (Pennsylvania State University)
Professor of Chemical Engineering (1944-1966).

BLOODWORTH, BERTHA ERNESTINE, Ph.D. (University of Florida)
Assistant Professor of English (1961-1961).

BLOODWORTH, THOMAS H., M.A. (University of Florida)
Associate Director of Personnel (1963-1971).

BLOOM, STEPHEN A., Ph.D. (University of Washington)
Assistant Professor of Zoology (1976-1976).

BLUE, RICHARD ARTHUR, Ph.D. (University of Wisconsin)
Associate Professor of Physics (1966-1973).

BLUE, WILLIAM GUARD, Ph.D. (University of Missouri)
Professor of Soil Science (Soil Chemistry), IFAS (1950-1963).

BLUME, ROBERT ALLEN, Ph.D. (University of Michigan)
Associate Professor of Education (1969-1972).

BOCK, DOUGLAS GREGORY, Ph.D. (Southern Illinois University)
Associate Professor of Speech (1971-1974).

BOCK, E. WILBUR, Ph.D. (Iowa State University)
Associate Professor of Sociology (1963-1973).

BOCK, EMILY HOPE, Ph.D. (Southern Illinois University)
Associate Professor of Behavioral Studies and Speech (1972-1976).

BOCK, MARTHA R., M.A.T.
Teacher, P.K. Yonge Laboratory School (1972-1972).

BODINE, WILLIS RAMSEY, JR., M.M.
Professor of Music (1959-1976).

BODO, TANYA, M.A. (University of Florida)
Instructor, College of Nursing (1974-1974).

BOLCH, WILLIAM EMMETT, JR., Ph.D. (University of California)
Associate Professor of Environmental Engineering Sciences (1966-1970).

BOLDUC, ELROY JOSEPH, Ed.D. (University of Tennessee)
Associate Professor of Education, Department of S.S.T.E. (1969-1974).

BOONE, WILLIE B., M.D. (Meharry Medical College)
Assistant Professor of Opthalmology VAH (1976-1976).

BONNEVILLE, DOUGLAS A., Ph.D. (Ohio State University)
Professor of French (1963-1976).

BOOTE, KENNETH JAY, Ph.D. (Purdue University)
Assistant Professor (Assistant Agronomist), IFAS, (1974-1974).

BOSS, BARBARA JANET, M.N. (University of Florida)
Assistant Professor, College of Nursing (1971-1973).

BOSSHARDT, DONALD I., B.B.A. (University of Wisconsin)
Assistant Professor of Finance (1975-1975).

BOSWELL, THOMAS D., Ph.D. (Columbia University)
Assistant Professor of Geography (1973-1973).

BOUDIN, HENRY MORTON, Ph.D. (University of Michigan)
Associate Research Scientist of Pharmacy (1970-1976).

BOWDEN, LOIS A.
Associate Hospital Director, Shands Teaching Hospital and Clinics (1975-1975).

BOWES, GEORGE, Ph.D. (University of London, England)
Assistant Professor of Botany, Arts and Sciences (1972-1972).

BOWLES, RICHARD WILLIAM, M.S.
Professor of Music (1958-1967).

BOWMAN, EARL K., B.S. (Virginia Polytechnic Institute)
Associate Industrial Engineer; USDA, Associate Professor, IFAS, (1957-1957).

BOWMAN, JOHN F., D.M.D. (Tufts University)
Professor and Chairman of Removable Prosthodontics, College of Dentistry (1969-1974).

BOWMAN, THOMAS THEODORE, Ph.D. (Tulane University)
Assistant Professor of Mathematics (1970-1970).

BOYCE, RICHARD P., Ph.D. (Yale University)
Professor of Biochemistry and Molecular Biology (1971-1971).

BOYD, CLIFFORD ALLEN, Ed.D. (Boston University)
Dean, College of Physical Education, Health, and Recreation and Professor of Professional Physical Education (1950-1970).

BOYD, ROBERT L., D.D.S. (Temple University)
Assistant Professor of Orthodontics, College of Dentistry (1976-1976).

BOYETT, JAMES M., Ph.D. (Michigan State University)
Assistant Professor of Statistics (1974-1974).

BOYKIN, WILLIAM HENRY, JR., Ph.D. (Stanford University)
Professor of Engineering Sciences; Professor, Electrical Engineering; Professor, Industrial and Systems Engineering (1967-1975).

BOYLES, JESSE V., III, Ph.D. (University of Florida), C.P.A. (Florida)
Assistant Professor of Accounting (1975-1975).

BOYSEN, BETTE E., M.D. (Loyola Univ.)
University Physician (1975-1975).

BOZARTH, JEROLD D., Ph.D. (University of Iowa)
Professor and Chairperson of Rehabilitation Counseling (1975-1975).

BRACKBILL, Y., Ph.D. (Stanford University)
Graduate Research Professor of Psychology and Professor of Obstetrics and Gynecology (1975-1975).

BRACKNEY, GLENN A., M.S.C.E.
Assistant Professor of Building Construction (1973-1973).

BRADDOCK, ROBERT J., (U. of Michigan)
Associate Professor (Associate Food Scientist) IFAS, AREC-Lake Alfred (1970-1975).

BRADFORD, ELEANOR VANCE, B.A. (Milwaukee-Downer College)
Instructor in Occupational Therapy, V.A. (1974-1974).

BRADLEY, RICHARD ALAN, M.A.
Associate in Natural Sciences, Florida State Museum (1975-1975).

BRADLEY, RICHARD E., D.V.M., Ph.D. (University of Georgia)
Professor (Parasitologist), College of Veterinary Medicine IFAS (1968-1968).

BRADSHAW, JAMES P., M.A., M.S. in L.S.
Associate Professor of English (1946-1959).

BRANCH, JOHN T., JR., M.B.A. (Southern Methodist University)
Coordinator, Department of Extended Services, Division of Continuing Education (1958-1968).

BRANCH, MARC NICHOLS, Ph.D. (University of Maryland)
Assistant Professor of Psychology (1973-1973).

BRANDMAN, RUSSELLA, M.M. (Florida State University)
Assistant Professor of Professional Physical Education (1973-1973).

BRANDNER, EUGENE A., B. Arch.
University Physical Planning Consultant, Facilities Planning Operations, J. Hillis Miller Health Center (1975-1975).

BRANTLEY, RICHARD ESTES, Ph.D. (Princeton University)
Associate Professor of English (1969-1974).

BRASHER, JAMES JACKSON, Ph.D. (Louisiana State University)
Assistant Dean and Associate Professor 4-H and other Youth Programs, IFAS (1973-1973).

BRASK, WILLARD JOHN GUSTAVE, M.M.
Associate Professor of Music (1963-1968).

BRAUN, JANE D., A.M.D. (Florida State University)
Assistant Law Librarian (1974-1974).

BRECHNER, BEVERLY LORRAINE, Ph.D. (Louisiana State)
Associate Professor of Mathematics (1968-1971).

BRECHNER, JUDITH A., J.D. (University of Miami)
Associate University Attorney (1972-1972).

BRECKE, BARRY JOHN, Ph.D. (Cornell University)
Assistant Professor (Assistant Agronomist), IFAS (1975-1975).

BREDAHL, A. CARL, Ph.D. (Pittsburgh University)
Associate Professor of English (1970-1976).

BREEZE, MARSHALL H., M.A. (University of Florida)
Assistant Professor (Assistant Editor), IFAS, (1974-1974).

BREIVOGEL, WILLIAM FRANCIS, Ed.D. (Rutgers University)
Associate Professor of Education (1966-1974).

BRELAND, HERMAN LEROY, Ph.D. (University of Illinois)
Professor of Soil Science (Soil Chemistry) IFAS (1952-1976).

BRENDEMUEHL, RAYMOND HUGO, Ph.D. (Iowa State University)
Associate Professor, U.S. Department of Agriculture, IFAS, (1968-1968).

BREY, WALLACE, SIEGFRIED, JR., Ph.D. (University of Pennsylvania)
Professor of Chemistry (1952-1964.)

BRESTEL, ERIC P., M.D. (University of Florida)
Instructor of Medicine (1976-1976).

BREZONIK, PATRICK LEE, Ph.D. (University of Wisconsin)
Professor of Environmental Engineering Sciences (1966-1976).

BRIENT, BRUCE W., M.D. (University of Kansas)
Assistant Professor of Surgery (1975-1975).

BRIGHAM, EUGENE F., Ph.D. (University of California at Berkeley)
Graduate Research Professor (1971-1971).

BRIGHT, ROBERT W., M.D. (George Washington University)
Assistant Professor of Orthopaedic Surgery and Chief of Pediatric Orthopaedic Services (1974-1974).

BRITT, MARY STEVENSON, M.S. (Bowman-Gray School of Medicine)
Chairman and Associate Professor, Department of Medical Technology (1974-1974).

BROCKMANN, H. JANE, Ph.D. (University of Wisconsin)
Assistant Professor of Zoology (1976-1976).

BRODKORB, PIERCE, Ph.D. (University of Michigan)
Professor of Zoology (1946-1955).

BROGDON, JAMES EDISON, M. Agr.
Professor (Entomologist) IFAS (1955-1966).

BROLMANN, JOHANNES BERNARDUS, Ph.D. (University of Florida)
Assistant Professor (Assistant Legume Breeder) IFAS, Agricultural Research Center, Ft. Pierce (1969-1969).

BROOKBANK, JOHN WARREN, Ph.D. (California Institute of Technology)
Professor, Microbiology and Cell Science, Arts and Sciences (1955-1968).

BROOKE, DONALD LLOYD, Ph.D. (University of Illinois)
Professor, Food and Resource Economics Department, IFAS (1946-1962).

BROOKEMAN, JAMES R., Ph.D. (Univ. of St. Andrews, Scotland)
Assistant Professor of Physical Sciences and Physics (1971-1973).

BROOKEMAN, VALERIE ANNE, Ph.D. (University of St. Andrews, Scotland)
Associate Professor of Radiology (1971-1972).

BROOKS, HAROLD KELLY, Ph.D. (Harvard University)
Professor of Geology, Civil Engineering and Coastal Engineering (1956-1971).

BROOKS, JAMES KEITH, Ph.D. (Ohio State University)
Professor of Mathematics (1967-1972).

BROOKS, ROBERT F., Ph.D. (University of Wisconsin)
Professor (Entomologist) IFAS, AREC-Lake Alfred (1960-1971).

BROOKS, THURSTON L., JR., B.S.
Assistant Professor, Food and Resource Economics Department, IFAS, DC.

BROUILLETTE, MARY JOAN, M.Ed. (University of Houston)
Visiting Assistant Professor of Medical Technology (1976-1976).

BROWN, ASHMUN, J.D. (Boston University)
Associate University Attorney (1974-1974).

BROWN, BOB B., Ph.D. (University of Wisconsin)
Professor of Foundations of Education (1965-1971).

BROWN, BRISBANE H., JR., Ph.D. (Oklahoma State University)
Associate Professor of Building Construction (1974-1974).

BROWN, DELINDUS RICHARD, Ph.D. (Indiana University)
Assistant Professor of Speech (1974-1974).

BROWN, DONALD EDWARD, M.Ed.
Assistant Coach (1962-1962).

BROWN, G. ELDON, Ph.D. (U. of Minnesota)
Adjunct Professor (Plant Pathologist) IFAS, DC, AREC-Lake Alfred (1965-1976).

BROWN, HENRY CLAY, Ph.D, (University of Florida)
Professor of Chemical Engineering and Professor of Chemistry (1952-1956).

BROWN, JAMES, B.A.
Assistant Basketball Coach (1976-1976).

BROWN, JEAN WOODLEY, M.Ed.
Instructor, P.K. Yonge Laboratory School (1967-1968).

BROWN, WILLIAM SAMUEL, Ph.D. (State Univ. of New York)
Associate Professor of Speech (1968-1976).

BROWNELL, WILLIAM E., Ph.D. (University of Chicago)
Assistant Professor of Surgery (Otolaryngology) and Neuroscience (1974-1974).

BROWNING, CHARLES BENTON, Ph.D. (Kansas State)
Professor and Dean for Resident Instruction, IFAS (1966-1969).

BROWNING, RUTH ANNE, M.S. (Kansas State University)
Assistant Professor of Clinical and Community Dietetics (1974-1974).

BROYLES, ARTHUR AUGUSTUS, Ph.D. (Yale University)
Professor of Physics and Physical Sciences (1949-1961). *

BRUNN, ALICE LEFLER, M.S. in L.S.
Assistant Librarian, Engineering and Physical Science (1972-1972).

BRUNSON, JIMMIE MELVIN, B.S.B.A.
Assistant in Engineering and Assistant Director, Engineering and Industrial Experiment Station (1970-1975).

BRUNSWICK, RICHARD A., M.D. (Jefferson Medical College)
Assistant Professor of Surgery (1976-1976).

BRUSS, MICHAEL L., D.V.M. (Colorado State) Ph.D. (University of California at Davis)
Assistant Professor of Physiological Chemistry and Veterinary Science, College of Veterinary Medicine (1975-1975).

BRYAN, HERBERT HARRIS, Ph.D. (Cornell University)
Associate Professor (Associate Horticulturist), IFAS, Agricultural Research and Education Center, Homestead (1964-1972).

BRYAN, ROBERT ARMISTEAD, Ph.D. (University of Kentucky)
Vice President for Academic Affairs and Professor of English (1957-1975). *

BUCHANAN, DAVID WESLEY, Ph.D. (Rutgers University)
Associate Professor (Associate Horticulturist), IFAS (1967-1973).

BUCHER, JOHN F., D.D.S. (University of Pittsburgh), M.S. (University of Michigan)
Professor and Chairman of Endodontics, College of Dentistry (1969-1974).

BUCHER, ROBERT L., M.D. (University of Minnesota Medical School)
Instructor of Medicine (JHEP) (1975-1976).

BUCHLER, J. ROBERT, Ph.D. (University of California)
Associate Professor of Physics (1974-1974).

BUCK, DOUGLAS LLOYD, M.Ag.
Assistant in Medical and Health Communications; Director, Health Center Communications, J. Hillis Miller Health Center (1965-1975).

BUEHLER, BRUCE ALAN, M.D. (University of Florida)
Assistant Professor of Pediatrics (1976-1976).

BUFFINGTON, DENNIS ELVIN, Ph.D. (University of Minnesota)
Associate Professor of Agricultural Engineering, IFAS (1971-1976).

BULLOCK, ROBERT CROSSLY, Ph.D. (University of Connecticut)
Associate Professor (Associate Entomologist) IFAS Agricultural Research Center, Ft. Pierce (1961-1961).

BULLOCK, THOMAS EDWARD, JR., Ph.D. (Stanford University)
Professor of Electrical Engineering (1966-1974).

BUNKE, BETTY J., M.S.N. (University of Minnesota)
Assistant Professor (1975-1975).

BURCHARDT, HANS, M.S. (University of Florida)
Assistant Professor of Orthopaedic Surgery (1976-1976).

BURDINE, HOWARD WILLIAM, Ph.D. (Cornell University)
Professor (Soils Chemist) IFAS Agricultural Research and Education Center, Belle Glade (1955-1968).

BURDITT, ARTHUR KENDALL, Ph.D. (University of Minnesota)
Professor (Entomologist), IFAS, USDA (1972-1972).

BUREN, WILLIAM F., Ph.D. (Cornell University)
Professor (Entomologist), IFAS (1973-1973).

BURGESS, PATRICK P., M.S.P.H. (University of North Carolina)
Assistant Professor of Obstetrics and Gynecology (1970-1970).

BURGIS, DONALD STAFFORD, M.S.A. (University of Florida)
Professor (Horticulturist), IFAS, Agricultural Research and Education Center, Bradenton (1946-1973).

BURGOON, JUDEE KATHELENE, Ed.D. (West Virginia University)
Assistant Professor of Speech (1974-1975).

BURGOON, MICHAEL, Ph.D. (Michigan State University)
Associate Professor of Speech (1974-1974).

BURK, WILLIAM L., M.S. (University of Missouri)
Assistant Professor, Extension Human Development Specialist (1976-1976).

BURNAP, CHARLES ALAN, Ph.D. (Harvard University)
Assistant Professor of Mathematics (1976-1976).

BURNES, JAMES ALTON, D., Phil. (Oxford University)
Professor of Law (1968-1968).

BURNETT, HARRY COPPIN, M.S. (University of Florida)
Associate Plant Pathologist, Div. of Plant Industry, IFAS (1968-1968).

BURNS, ASSAN, F., Ph.D. (University of Washington)
Visiting Adj. Assistant Professor of Anthropology (1976-1976).

BURNS, AUGUSTUS MERRIMON, III, Ph.D. (University of North Carolina)
Assistant Professor of Social Sciences and History (1967-1967).

BURNS, DOUGLAS, M.L.S. (University of Texas)
Assistant Librarian, Documents (1967-1967).

BURNS, JAMES FRANKLIN, Ph.D. (Massachusetts Institute of Technology)
Professor of Industrial and Systems Engineering (1966-1975).

BURNS, MARY FERRIS, M.L.S. (University of Texas)
Assistant Librarian, Latin American Collection (1975-1975).

BURNS, WILLIAM CALVIN, M.S.
Assistant Professor (Assistant Animal Husbandman and Center Director, IFAS, USDA, Brooksville Beef Cattle Research Station (1957-1957).

BURRELL, ROBERT L., M.S.
Assistant Dean for Student Services (1973-1973).

BURRIDGE, MICHAEL J., B.V.M. & S. (Edinburg University) Ph.D. (University of California at Davis)
Associate Professor, College of Veterinary Medicine (1976-1976).

BURROWS, LEE, BBA (Marshall University)
Assistant Director Auxiliary Services (1971-1971).

BURT, EVERT OAKLEY, Ph.D. (Ohio State University)
Professor (Ornamental Horticulturist) IFAS, Agricultural Research Center, Ft. Lauderdale (1962-1969).

BURTON, THOMAS ROLAND, JR., M.S. (University of Florida)
Assistant Research Scientist for International Programs, IFAS, El Salvador (1971-1975).

BUSBY, WALTER A., Ed.D. (Michigan State University)
Associate Professor of Education (1968-1974).

BUSH, TED J., M.S.
Assistant Professor of Journalism and Communications (1972-1973).

BUSHNELL, DAVID, Ph.D. (Harvard University)
Professor of History (1963-1968).

BUSHNELL, PETER STERLING, M.L.S.
Assistant Librarian, Catalog (1972-1975).

BUSLIG, BELA S., Ph.D. (University of Florida)
Adjunct Assistant Professor (Assistant Biochemist), IFAS, DC, AREC-Lake Alfred (1967-1971).

BUSS, DARYL D., D.V.M. (U Minnesota) Ph.D. (U Wisconsin)
Associate Professor, College of Veterinary Medicine and Division of Cardiology, College of Medicine (1976-1976).

BUSEY, PHILIP, Ph.D. (University of Arizona)
Assistant Professor (Assistant Turfgrass Breeder), IFAS.

BUTLER, GEORGE BERGEN, Ph.D. (University of North Carolina)
Professor of Chemistry and Research Professor (1946-1957).

BUTLER, GLENN A., Ed.D. (Oklahoma State University)
Professor of Journalism and Communications and Assistant Dean (1966-1975).

BUTLER, JERRY FRANK, Ph.D. (Cornell University)
Associate Professor (Associate Entomologist), IFAS, (1968-1974).

BUTLER, SHERMAN LINVILLE, M.L.S.
Associate Librarian, Reference and Bibliography (1968-1974).

BUTT, ARNOLD FREDERICK, M. Arch.
Professor of Architecture and Chairperson of the Department of Architecture (1952-1968).

BUTTERWORTH, JAMES DONALD, Ph.D. (Northwestern University)
Professor of Marketing (1955-1958). *

BUTTON, JAMES W., Ph.D. (University of Texas)
Assistant Professor of Social Sciences and Political Science, Adviser (1973-1973).

BUTTON, ROBERT A., M.LTT. (Univ. of Pittsburgh)
Director, University Personnel Relations (1963-1965).

BYRD, HAZEL PATRICIA, Ph.D. (University of Florida)
Assistant Professor of Linguistics and Assistant Director of the English Language Institute (1974-1974).

BYRNES, LINDA JOHNSON, M.S. (Florida State University)
Instructor in Communicative Disorders (1971-1971).

BYRON, KENNETH HUGH, Ph.D. (University of Florida)
Associate Professor of English, Adviser (1961-1970).

BZOCH, KENNETH RUDOLPH, Ph.D. (Northwestern University)
Chairperson and Professor, Department of Communicative Disorders and Speech (1960-1965).

CADE, JAMES R., M.D. (University of Texas)
Professor and Chief of Renal Medicine (1961-1972).

CAILLER, BERNADETTE, Ph.D. (Cornell University)
Assistant Professor of French (1974-1974).

CALDERWOOD, HUGH W., V.M.D. (University of Pennsylvania)
Assistant Professor of Anesthesiology and Comparative Medicine, College of Veterinary Medicine (1971-1974).

CALDWELL, JACQUES R., M.D. (Johns Hopkins University)
Associate Professor of Medicine (1971-1974).

CALDWELL, MARY ELLEN, LL.M. (Yale University)
Professor of Law (1974-1974). •

CALDWELL, ROBERT EDWARD, Ph.D. (Purdue University)
Professor of Soil Science (Pedology), IFAS (1941-1968).

CALFEE, DENNIS A., (University of Florida)
Visiting Assistant Professor (1975-1975).

CALFEE, LENORA M., M.L.S. (Florida State University)
Assistant Librarian, IFAS (1971-1973).

CALHOUN, ELIZABETH CARVER, M.L.S. (Florida State Univ.)
Assistant Librarian of Education Library (1976-1976).

CALHOUN, FRANK G., Ph.D. (University of Florida)
Associate Professor of Soil Science (Soil Taxonomy) Chief of Party, El Salvador, IFAS (1971-1976).

CALLAHAN, PHILIP S., Ph.D. (Kansas State University)
Professor (Entomologist) IFAS, USDA Insect Attractant Behavior Research Laboratory (1969-1969).

CALLOWAY, PAULINE FRANCES, Ed.D. (North Carolina State)
Associate Professor (Extension District Agent), IFAS, (1968-1974).

CALVERT, DAVID VICTOR, Ph.D. (Iowa State University)
Professor (Soil Chemist) (1962-1976).

CAMBRON, NELDA H., Ph.D. (University of Florida)
Adj. Vis. Assistant Professor of Administration & Supervision (1976-1976).

CAMERON, DON F., Ph.D. (Med. al U. of South Carolina)
Instructor of Anatomy (1976-1976).

CAMPBELL, CARL WALTER, Ph.D. (Purdue University)
Professor (Horticulturist) IFAS, Agricultural Research and Education Center, Homestead (1960-1973).

CAMPBELL, HUGH DANIEL, Ph.D. (Univ. of British Columbia)
Associate Professor of Nuclear Engineering Sciences (1968-1973).

CAMPBELL, KENNETH LEONARD, Ph.D. (Iowa State University)
Assistant Professor (Assistant Agricultural Engineer), IFAS (1972-1972).

CAMPBELL, SUSAN McCARTHY, M.L.S. (University of Maryland)
Assistant Librarian, Reference and Bibliography (1976-1976).

CANTLIFFE, DANIEL JAMES, Ph.D. (Purdue University)
Associate Professor (Horticulturist), IFAS (1974-1976).

CANTOR, BERNARD, M.D. (University of Rochester)
Assistant Professor in Obstetrics and Gynecology (1975-1975).

CANTRELL, FRED H., B.S.B.A. (University of Florida)
Director of University Relations (1968-1968).

CAPEHART, BARNEY L., Ph.D. (University of Oklahoma)
Associate Professor of Industrial and Systems Engineering (1968-1973). •

CARANASOS, GEORGE J., M.D. (Johns Hopkins University)
Associate Professor of Medicine and Community Health and Family Medicine and Chief of Ambulant Medicine (1965-1973).

CARDEILHAC, PAUL T., D.V.M. (Texas A&M), Ph.D. (University of Pennsylvania)
Associate Professor (Associate Pharmacologist), College of Veterinary Medicine-IFAS (1968-1968).

CARLIN, ANN, J.D. (University of Florida)
Assistant Dean for Academic Affairs (1976-1976).

CARLISLE, VICTOR WALTER, Ph.D. (University of Florida)
Professor of Soil Science, (Pedology), IFAS (1947-1974).

CARLSON, DAVID ARTHUR, Ph.D. (University of Hawaii)
Assistant Professor (Assistant Entomologist), IFAS, USDA (1973-1973).

CARLSON, GERALD M., Ph.D. (University of Michigan)
Associate Professor, College of Veterinary Medicine and Department of Pharmacology, College of Medicine (1976-1976).

CARLSON, NORMAN GILBERT, B.S.
Asst. Ath. Dir. for Sports Information (1963-1963).

CARNELL, CORBIN SCOTT, Ph.D. (University of Florida)
Professor of English (1958-1976).

CARPENTER, JAMES WOODFORD, Ph.D. (University of Florida)
Professor (Meat Scientist), IFAS (1953-1971).

CARPENTER, RONALD HENRY, Ph.D. (University of Wisconsin)
Associate Professor of Speech (1971-1971).

CARPENTER, WILLIAM JOHN, Ph.D. (Michigan State University)
Professor and Chairperson for Ornamental Horticulture, IFAS (1975-1975).

CARR, ARCHIE FAIRLY, Ph.D. (University of Florida)
Graduate Research Professor of Zoology and Curator of Zoological Sciences, Florida State Museum (1937-1959). •

CARR, GLENNA DODSON, Ed.D (University of Florida)
Associate Professor of Education (1952-1973)

CARR, HOWARD L., M.A.
Visiting Assistant Professor of Journalism and Communications (1976-1976).

CARR, THOMAS DEADERICK, Ph.D. (University of Florida)
Professor of Physics and Astronomy (1958-1966).

CARR, WILLIAM C., M.Ed.
Assistant Athletic Director (1972-1976).

CARR, WILLIAM E.S., Ph.D. (Duke University)
Associate Professor of Zoology and Assistant Director of C.V. Whitney Marineland Laboratory (1965-1966).

CARRERA, FRANK, III, M.D. (Emory University)
Associate Professor of Psychiatry (1960-1970).

CARRERAS, VINCENTE, B.S. (St. Louis University)
Assistant In Meteorology, IFAS, NWS, Agricultural Research Center, Lakeland (1974-1974).

CARROLL, EDWARD ELMER, Ph.D. (University of Pennsylvania)
Professor of Nuclear Engineering Sciences and Acting Chairperson of the Department (1966-1972).

CARSON, RONALD, Ph.D. (University of Glasgow)
Assistant Professor of Humanities and Community Health and Family Medicine (1975-1975).

CARTER, LAWRENCE, Ph.D. (Florida State University)
Assistant in Rural Development (Extension Rural Development Specialist), FAMU, IFAS (1974-1974).

CARTER, RANDOLPH L., Ph.D. (Iowa State University)
Assistant Professor of Statistics (1976-1976).

CARTER, WILLIAM E., Ph.D. (Columbia University)
Director of the Center for Latin American Studies and Professor of Anthropology (1962-1970).

CARVAJAL, MANUEL J., Ph.D. (University of Florida)
Visiting Assistant Research Professor of Latin American Studies (1972-1974).

CASAGRANDE, JEAN, Ph.D. (Indiana University)
Associate Professor of French and Linguistics; Director of Program in Linguistics (1968-1973).

CASSIN, BARBARA C., B.S. (Simmons College)
Assistant Ophthalmologist (1969-1974).

CASSIN, SIDNEY, Ph.D. (University of Texas)
Professor of Physiology (1957-1969).

CASSISI, NICHOLAS J., M.D. (University of Miami)
Associate Professor of Surgery and Chief, Otolaryngology, VAH (1973-1975).

CASTEEL, JAMES DOYLE, Ph.D. (George Peabody College)
Professor of Education (1969-1975).

CASTLE, WILLIAM S., Ph.D. (University of Florida)
Assistant Professor, (Assistant Horticulturist) IFAS, AREC-Lake Alfred (1974-1974).

CATO, BERTHA MAE, M.A. (Indiana State University)
Assistant Professor of Recreation (1976-1976).

CATO, JAMES C., Ph.D. (University of Florida)
Assistant Professor (Extension Marine Economist), Food and Resource Economics Department, IFAS (1969-1974).

CATON, DONALD, M.D. (Columbia University)
Associate Professor of Obstetrics and Gynecology and Anesthesiology (1969-1974).

CECH, JOHN, Ph.D. (Univ. of Connecticut)
Visiting Assistant Professor (1976-1976).

CENTIFANTO, YSOLINA M., Ph.D. (University of Florida)
Associate Professor of Ophthalmology and Immunology and Medical Microbiology (1968-1972).

CENZER, DOUGLAS A., Ph.D. (University of Michigan)
Assistant Professor of Mathematics (1972-1973).

CENZER, PAMELA S., M.L.S. (University of Michigan)
Assistant Librarian, Acquisitions (1973-1976).

CERDA, JAMES J., M.D. (University of Maryland)
Professor and Associate Director, CRC, Area Clinical Physician, Professor of Medicine (1972-1976).

CERUTTI, PETER A., M.D., Ph.D. (University of Zurich)
Professor and Chairperson of Biochemistry and Molecular Biology and Director of Biochemistry Programs in the Medical Center (1971-1971).

CHAFFEE, RICHARD B., D.D.S. (Temple University)
Assistant Professor of Periodontics, College of Dentistry (1974-1974).

CHAFIN, MOSES BENTON, M.P.H.
Assistant Professor of Physical Education (1964-1968).

CHALMERS, DAVID MARK, Ph.D. (Rochester University)
Professor of History (1955-1967).

CHAMBERS, DERRELL L., Ph.D. (Oregon State University)
Professor of Entomology, USDA, IFAS (1972-1972).

CHAMEIDES, WILLIAM L., Ph.D. (Yale University)
Assistant Professor of Physics and Atmospheric Sciences (1976-1976).

CHAMPION, JOHN MILLS, Ph.D. (Purdue University)
Chairman and Professor of Health and Hospital Administration; Professor Management (1964-1969).

CHANCE, JEAN C., M.A.
Assistant Professor of Journalism and Communications (1969-1972).

CHANG, RICHARD TAIWON, Ph.D. (University of Michigan)
Professor of History (1966-1975).

CHAPMAN, HERBERT LEE, JR., Ph.D. (Iowa State University)
Professor (Animal Nutritionist) and Center Director, Agricultural Research Center, ONA IFAS (1951-1965).

CHAPMAN, SHARON K., Ph.D. (University of Florida)
Assistant Professor of Pharmacology and Therapeutics (1972-1972).

CHAPMAN, WILLIS HARLESTON, M.S. (North Carolina State)
Professor (Agronomist) and Center Director, IFAS, Agricultural Research and Education Center, Quincy (1942-1959).

CHARUDATTAN, RAGHAVEN, Ph.D. (University of Madras)
Assistant Professor in Plant Pathology, IFAS (1970-1973).

CHEEK, JIMMY GEARY, Ph.D. (Texas A&M University)
Assistant Professor, Agricultural Extension Education, IFAS (1975-1975).

CHELLEMI, S. JOHN, D.D.S. (University of Pennsylvania)
Professor of Oral Medicine, College of Dentistry (1970-1975).

CHEN, CHAO L., D.V.M. (National Taiwan University) Ph.D. (Michigan State University)
Associate Professor, College of Veterinary Medicine (1976-1976).

CHEN, KWAN-YU, Ph.D. (University of Pennsylvania)
Associate Professor of Astronomy and Physical Sciences (1963-1969).

CHEN, SU-SHING, Ph.D. (University of Maryland)
Associate Professor of Mathematics (1970-1975).

CHEN, WAYNE H., Ph.D. (University of Washington)
Dean of the College of Engineering; Director of the Engineering and Industrial Experiment Station; Professor of Electrical Engineering (1952-1973).

CHENETTE, EUGENE R., Ph.D. (University of Minnesota)
Professor of Electrical Engineering and Chairperson of the Department (1966-1974).

CHERRY, RONALD HOWARD, Ph.D. (University of Illinois)
Assistant Research Scientist (Entomologist), IFAS, Agricultural Research Center, Ft. Lauderdale (1976-1976).

CHESTNUT, CYNTHIA MARIE, M.S. (Florida State University)
Visiting Instructor of Speech (1974-1974).

CHEVES, FOREST A., M.S.
Associate in Chemistry (1961-1970).

CHEW, VICTOR, B.Sc.(H.) (University of Western Australia)
Associate Professor (Associate Statistician), USDA, IFAS (1955-1973). •

CHILDERS, DONALD GENE, Ph.D. (University of Southern California)
Professor of Electrical Engineering and Acting Chairperson of the Department (1965-1968).

CHILDERS, RICHARD C., M.D. (University of Rochester)
Assistant Professor, Department of Medicine (1974-1974).

CHILDERS, WILLIAM COLE, Ph.D. (University of Florida)
Professor of English (1959-1969). •

CHIOU, GEORGE C. Y., Ph.D. (Vanderbilt University)
Associate Professor of Pharmacology and Therapeutics (1969-1973).

CHIU, TSAO-YI, Ph.D. (University of Florida)
Associate Professor of Coastal and Oceanographic Engineering Laboratory; Associate Professor of Engineering Sciences (1973-1973).

CHOATE, RUSH EDGAR, M.S.A.
Professor of Agricultural Engineering, IFAS (1947-1959).

CHRISTENSEN, BENT AKSEL, Ph.D. (University of Minnesota)
Professor of Civil Engineering (1963-1965).

CHRISTIAN, MILTON BURKE, M.Ed.
Assistant Professor of Behavioral Studies (1964-1970).

CHRISTIANSEN, KENNETH A., Ed.D. (University of Missouri)
Professor of Journalism and Communications, Director of Education Television and Chairperson, Department of Broadcasting (1959-1972).

CHRISTIE, LEONARD G., M.D. (Temple University School of Medicine)
Assistant Professor of Medicine (1976-1976).

CHRISTMAS, ROBERT BRUCE, Ph.D. (University of Florida)
Assistant Professor in Poultry Science, IFAS (1960-1972).

CH'U, CHAUNCEY CHENG-HSI, Ph.D. (University of Texas)
Associate Professor of Chinese and Linguistics (1969-1974).

CHURCHILL, JAMES TILLIS, B.A. (Univ. of Florida)
Visiting Teacher, P.K. Yonge (1975-1975).

CIEPLINSKI, LOUETTA KIDD, B.S. (University of Florida)
Visiting Instructor of Physical Therapy (1976-1976).

CIEZKOWSKI, JOE, B.S.P.
Assistant in Pharmacy and Director of Sunland Pharmacy Services (1976-1976).

CILLEY, MARY L., M.A. (University of Florida)
Assistant Professor (Assistant Editor), IFAS, (1961-1962).

CLARK, ANTHONY JAMES, Ph.D. (Denver University)
Associate Professor of Speech (1969-1974).

CLARK, ARTHUR E., JR., Ph.D. (Univ. of Florida)
Assistant Professor of Dental Biomaterials, College of Dentistry (1975-1975).

CLARK, EDWARD BOWIE, JR., Ed.S.
Assistant Professor of Education (1966-1971).

CLARK, FRED, M.S.A. (University of Florida)
Professor of Agronomy, IFAS (1958-1958). •

CLARK, HAROLD BROWN, Ph.D. (University of Kentucky)
Professor, Food and Resource Economics Department, IFAS (1958-1958). •

CLARK, IRA GRANVILLE, Ph.D. (Northwestern University)
Associate Professor of English (1972-1972).

CLARK, PHILLIP A., Ed.D. (Western Michigan University)
Associate Professor of Education (1972-1972).

CLARK, T. DWYGHT, D.D.S. (Emory University)
Assistant Professor of Operative Dentistry, College of Dentistry (1976-1976).

CLARKSON, MARK HALL, Ph.D. (University of Texas)
Professor of Engineering Sciences (1961-1961). •

CLAYTON, JOE EDWARD, M.S. (Clemson)
Associate Professor (Associate Agricultural Engineer) IFAS, USDA, Agricultural Research & Education Center, Belle Glade (1965-1965).

CLAYTON, KENNETH C., Ph.D. (Purdue University)
Assistant Professor, Food and Resource Economics, IFAS (1975-1975).

CLEM, LESTER WILLIAM, Ph.D. (University of Miami)
Professor of Immunology and Medical Microbiology, College of Medicine and Professor of Microbiology, College of Arts and Sciences (1966-1971).

CLINE, L. ELIZABETH, Ed.S.
Residence Life Coordinator, Student Housing (1976-1976).

CLORE, FOREST C., M.D. (University of Michigan)
Associate Professor and Chief of Diagnostic Radiology, VAH (1967-1976).

CLUBOK, ALFRED B., Ph.D. (University of Michigan)
Professor of Political Science (1958-1974).

CLUNN, PATRICIA A., Ed.D. (Columbia Univ.)
Assistant Professor, College of Nursing (1975-1975).

COBB, BARBARA A., M.N. (University of Florida)
Program Director, Level I, and Assistant Professor College of Nursing and College of Pharmacy (1971-1974). •

COCHRANE, PAMELA V., Ph.D. (University of Florida)
Visiting Research Scholar of Education (1975-1975).

COFFELT, JAMES A., Ph.D. (University of Wisconsin)
Assistant Professor of Entomology, USDA, IFAS (1971-1971).

COGGINS, WILMER J., M.D. (Duke University)
Professor of Community Health and Family Medicine (1975-1975).

COHEN, EDWIN, Ph.D. (Iowa State University)
Associate Professor of Clinical Psychology and Psychology-V.A. (1968-1968).

COHEN, HOWARD LIONEL, Ph.D. (University of Indiana)
Associate Professor of Physical Sciences and Astronomy (1968-1973).

COHEN, JOEL B., Ph.D. (University of California at Los Angeles)
Professor of Marketing and Chairman of Department of Marketing (1974-1974).

COHEN, LOUIS DAVID, Ph.D. (Duke University)
Professor of Clinical Psychology; Professor of Psychology (1962-1962).

COHEN, MORTIMER, Ph.D. (University of Minnesota)
Professor (Plant Pathologist, IFAS Agricultural Research Center, Ft. Pierce (1956-1968).

COHEN, ROBERT J., Ph.D. (Yale University)
Associate Professor of Biochemistry and Molecular Biology (1971-1976).

COLBURN, DAVID RICHARD, Ph.D. (University of North Carolina)
Assistant Professor of Social Sciences and History, Adviser (1972-1972).

COLE, THOMAS WINSTON, Ed.D. (University of Texas)
Dean of Academic Affairs for Instructional Services and Professor of Educational Administration (1971-1972).

COLETTE, WILLIAM A., Ph.D. (Iowa State University)
Assistant Professor (Assistant Agricultural Economist), IFAS (1975-1975).

COLGATE, SAMUEL ORAN, Ph.D. (Massachusetts Institute of Technology)
Associate Professor of Chemistry (1959-1966).

COLLE, DOUGLAS EDWARD, M.S. (Texas A&M University)
Assistant in Fisheries, IFAS (1974-1974).

COLLETT, WILLIAM K., D.D.S., Sc.D. (University of Pittsburgh)
Associate Dean and Professor of Oral Medicine, College of Dentistry (1968-1974).

COLLIER, COURTLAND A., M.E. (University of Florida)
Associate Professor of Civil Egineering (1961-1976).

COLLIER, ROBERT J., Ph.D. (University of Illinois)
Assistant Professor (Animal Physiologist), IFAS (1976-1976).

COLLINS, DOROTHY E., A.C.S.W. (University of Chicago)
Assistant Professor of Social Work in Psychiatry (1966-1969).

COLLINS, WILLIAM A., Ph.D. (University of Washington) C.P.A. (Florida)
Assistant Professor of Accounting (1973-1973).

COLVILLE, WARREN R., B.S.
Coordinator of Educational Media, Learning Resources Center, J. Hillis Miller Health Center (1975-1975).

COMBS, CHRISTOPHER L., M.S. (Florida State University)
Assistant in Marine Biology, IFAS (1976-1976).

COMBS, GEORGE ERNEST, Ph.D. (Iowa State University)
Professor (Animal Nutritionist) IFAS (1951-1967). *

CONKLIN, JAMES BYRON, JR., Sc.D. (MIT)
Director, Circa and Associate Professor of Physics (1964-1974).

CONNELL, RICHARD GRANT, Ph.D. (University of Florida)
Assistant Professor of Materials Science and Engineering (1973-1975).

CONNER, H. HENRY, M.A.
Assistant Professor of Journalism and Communications, Producer-Director, Television Station WUFT (1966-1973).

CONNER, J. WAYNE, Ph.D. (Princeton University)
Professor of Romance Languages and Chairperson of the Department (1962-1962).

CONNER, TOTSYE JOHNSON, M.Ed.
Instructor, P.K. Yonge Laboratory School (1968-1972).

CONNOLLY, JOHN W. D., Ph.D. (University of Florida)
Professor of Physics (1970-1976).

CONNOLLY, MICHAEL B., Ph.D. (University of Chicago)
Professor of Economics (1972-1976).

CONOVER, CHARLES ALBERT, Ph.D. (University of Georgia)
Professor (Ornamental Horticulturist) and Center Director, Agricultural Research Center, Apopka (1963-1974).

CONOVER, ROBERT ARMINE, Ph.D. (University of Illinois)
Professor (Plant Pathologist), IFAS, Agricultural Research and Education Center, Homestead (1947-1974).

CONRAD, JOSEPH HENRY, Ph.D. (Purdue University)
Professor (Animal Nutritionist), Tropical Animal Science, IFAS (1971-1971).

CONRADT, DAVID PAUL, Ph.D. (Brown University)
Associate Professor of Political Science (1968-1973).

CONROY, STEPHEN S., Ph.D. (University of Iowa)
Chairman of American Studies and Associate Professor of Afro-American Studies (1960-1969). *

CONTI, ANTHONY J., D.M.D. (New Jersey College of Dentistry), M.P.H. (University of North Carolina)
Associate Professor of Community Dentistry, College of Dentistry (1971-1976).

CONTI, C. RICHARD, M.D. (Johns Hopkins University)
Professor and Chief of Cardiology, VAH (1974-1974).

COPELIN, JOHNNY LANDON, Ph.D. (Texas Tech University)
Assistant Professor (Animal Nutritionist), IFAS (1976-1976).

COOK, ALLYN AUSTIN, Ph.D. (University of Wisconsin)
Professor (Plant Pathologist) IFAS (1954-1967).

COONS, WILLIAM WARWICK, M.B.A. (George Washington Univ.)
Associate Engineer of Civil Engineering (1976-1976).

COOPERRIDER, DONALD ELMER, D.V.M., M.S.C. (Ohio State University)
Professor (Parasitologist) College of Veterinary Medicine-IFAS, Florida Department of Agriculture, (1968-1968).

COPPOCK, GLENN E., M.S. (Oklahoma State University)
Adjunct Professor (Agricultural Engineer), IFAS, DC, AREC-Lake Alfred (1958-1968).

CORAM, WILMER THOMAS, JR., M.A.E. (University of Florida)
Coordinator, Department of Extended Services, Division of Continuing Education (1957-1969).

CORBETT, WELLESLEY T., JR., Ed.D. (University of Florida)
Visiting Assistant Professor (1973-1973).

CORNELIUS, CHARLES E., D.V.M., Ph.D. (Univ of Cal at Davis)
Dean, College of Veterinary Medicine, Chairman, Department of Veterinary Science, Professor of Pathology and Medicine (1971-1973).

CORNELIUS, WILLIAM G., Ph.D. (University of Minnesota)
Visiting Assistant Professor of Management (1972-1972).

CORNELL, JOHN ANDREW, Ph.D. (Virginia Polytechnic Institute)
Associate Professor (Associate Statistician), IFAS (1968-1973).

COUCH, LEON WORTHINGTON, II, Ph.D. (University of Florida)
Associate Professor of Electrical Engineering (1967-1974).

COUCH, MARGARET W., Ph.D. (University of Florida)
Assistant Research Professor, Radiation Chemistry, VAH (1969-1971).

COULSON, GRACIELA B., Ph.D. (Washington University, St. Louis)
Assistant Professor of Spanish (1974-1974).

COULTAS, CHARLES LYNN, Ph.D. (University of Minnesota)
Associate Professor of Soil Science (FAMU), IFAS (1973-1973).

COUNTS, FRANK S., M.S.
Assistant Professor of Journalism and Communications, Producer-Director, Television Station WUFT (1972-1975).

COURAGE, KENNETH GRANT, MSCE (Texas A&M University)
Associate Professor of Civil Engineering (1971-1976).

COURAGE, MYRNA, M.N. (University of Florida)
Visiting Assistant Professor College of Nursing (1976-1976).

COVEY, CHARLES DEAN, Ph.D. (Louisiana State University)
Professor, Food and Resource Economics Department, IFAS (1957-1967).

COX, MERLIN GWINN, Ph.D. (University of Florida)
Associate Professor of Social Sciences and History, Adviser (1955-1966). *

CRAIN, EDWARD E., M.A.
Associate Professor of Architecture (1973-1973).

CRALL, JAMES MONROE, Ph.D. (University of Missouri)
Professor (Plant Pathologist) and Center Director, IFAS, Agricultural Research Center, Leesburg (1952-1954).

CRANDALL, CATHERINE A., Ph.D. (Purdue University)
Assistant Professor of Pathology (1960-1972).

CRANDALL, LEE A., Ph.D. (Purdue University)
Research Scientist for Community Health and Family Medicine (1976-1976).

CRANDALL, PHILLIP G., Ph.D. (Purdue University)
Assistant Professor (Assistant Food Scientist), IFAS, AREC-Lake Alfred (1975-1975).

CRANDALL, RICHARD B., Ph.D. (Purdue University)
Professor of Immunology and Medical Microbiology (1960-1974).

CRANNEY, ADELBERT GARR, JR., Ph.D. (University of Minnesota)
Associate Professor of English and Education, (1966-1969).

CRAVEN, ROY C., JR., M.F.A.
Director, University Gallery; Professor of Art (1954-1967). *

CRAVENS, SALLY ANN, M.A.
Librarian, Documents (1967-1976).

CRAVER, CHARLES B., J.D.
Associate Professor (1974-1975).

CRAWFORD, BEN H., Ph.D. (University of Kentucky)
Assistant Professor (Assistant Animal Scientist) Animal Science, IFAS (1973-1973).

CREEL, AUSTIN BOWMAN, Ph.D. (Yale University)
Associate Professor of Religion (1957-1964). *

CREVASSE, LAMAR E., M.D. (Duke University)
Professor of Medicine and Assistant Dean for Continuing Medical Education (1958-1969).

CREWS, CLIFTON E. JR., Ph.D. (University of Georgia)
Assistant Professor of Fruit Crops (1976-1976).

CREWS, HARRY EUGENE, M.E.D. (University of Florida)
Professor of English (1968-1976).

CREWS, RUTHELLEN, Ed.D. (Columbia University)
Professor of Education (1966-1972).

CRIBBETT, ALBERT F., M.S.A.
Director of Special Programs and Assistant Professor of Agricultural Economics, IFAS (1954-1967).

CRIPE, JESSE H., B.S.E.E.
Associate in Broadcasting and Director of Broadcast Services (1974-1974).

CRIPE, WYLAND S., D.V.M. (University of California-Davis)
Associate Professor and Assistant Dean for Student and Public Services, College of Veterinary Medicine (1972-1974).

CRISTESCU, NICOLAE, DMP. (University of Bucharest)
Graduate Research Professor of Engineering Sciences (1970-1970).

CROCKER, LINDA M., Ph.D. (Michigan State University)
Assistant Professor of Education (1974-1974).

CROCKER, TIMOTHY EUGENE, Ph.D. (Michigan State University)
Associate Professor of Fruit Crops (Extension Horticulturist), IFAS, (1970-1975).

CROCKETT, JOE RICHARD, Ph.D. (University of Florida)
Associate Professor (Associate Animal Geneticist), IFAS, Agricultural Research and Education Center, Belle Glade (1960-1969).

CROMROY, HARVEY L., Ph.D. (North Carolina State University)
Professor of Entomology, IFAS (1974-1975).

CROMWELL, RICHARD PARK, M.E.
Assistant Professor (Asst. Agricultural Engineer) IFAS, (1967-1969).

CRONE, ERNEST GEORGE, M.Ed.
Assistant Professor of Physical Education (1957-1963).

CROOK, FRANCES M., B.A. (Univ. of Florida)
Associate Director of Personnel (1960-1976).

CROSBY, FLOYD R., JR., B.S.B.A. (Univ. of Florida)
Systems Coordinator (1962-1975).

CROSLAND, ROBERT ELDER, M.A. Arch.,
Professor of Building Construction (1971-1976).

CROSS, CLARK IRWIN, Ph.D. (University of Washington)
Associate Professor of Geography and Physical Sciences and Acting Chairperson of the Department of Geography (1949-1975).

CROWE, DENNIS R., Ph.D. (University of Florida)
Assistant Professor and Extension Outdoor Recreation Specialist, IFAS (1972-1972).

CROWLEY, PATRICIA MAE, M.A.
Assistant Librarian, J. Hillis Miller Health Center Library (1974).

CRUM, ROY LEE, Ph.D. (University of Texas at Austin)
Assistant Professor of Finance (1974-1974).

CRUMMER, ARTHUR ALLEN, Ph.D. (University of Florida)
Visiting Instructor of Mathematics (1971-1971).

CRUMP, MARTHA L., Ph.D. (University of Kansas)
Assistant Professor of Zoology (1976-1976).

CRUZ, AMELIA C., M.D. (University of the Philippines)
Assistant Professor of Obstetrics and Gynecology (1973-1975).

CSIZINSZKY, ALEXANDER A., Ph.D. (Washington State Univ.)
Assistant Professor (Assistant Horticulturist), IFAS, Agricultural Research and Education Center, Bradenton (1976-1976).

CULLEN, STANLEY I., M.D. (University of Miami)
Associate Professor in Medicine (1966-1969).

CULPEPPER, MARYANNE G., M.A.J.C.
Assistant in Broadcasting, Research, Television Station WUFT (1974-1974).

CUNNINGHAM, HUGH W., (University of Missouri)
Director of Information Services, Assistant to the President Journalism (1955-1973).

CUNNINGHAM, RICHARD JOHN, JR., M.L.S. M.Phil.
Assistant Librarian, Catalog (1972-1972).

CUNNINGHAM, WALTER R., Ph.D. (University of Southern California)
Assistant Professor of Psychology, Gerontology, and Clinical Psychology (1974-1974).

CURRAN, ROBERT LYNN, Ed.D. (Harvard University)
Professor of Education (1952-1969).

CURREY, WAYNE LEE, Ph.D. (University of Connecticut)
Associate Professor of Agronomy, IFAS (1970-1975).

CURRY, R. CHARLES, JR., M.D. (University of Florida)
Assistant Professor of Medicine, VAH (1974-1974).

CURTIS, CLAYTON C., Ph.D. (Indiana University)
Associate Professor of Real Estate and Urban Studies (1958-1961).

CURTIS, ROBERT L., M.P.A.
Assistant in Pharmacy and Assistant to the Dean (1975-1975).

CUSHINSKY, H. MICHAEL, A.M. (University of Pennsylvania)
Interim-Assistant Professor of Insurance (1976-1976).

CUTLER, WILLIAM H., Ph.D. (University of Southern California)
Assistant Professor of Communicative Disorders, V.A. (1967-1967).

DAANE, BETH, M.S.
Associate Librarian, Reference and Bibliography (1969-1975).

DAICOFF, GEORGE R., M.D. (University of Indiana)
Professor and Chief, Thoracic and Cardiovascular Surgery (1967-1972).

DALE, MARTHA S., M.S. (University of Florida)
Visiting Instructor of Clinical and Community Dietetics (1976-1976).

DALSHEIMER, BARBARA CORINNE, M.P.H.
Instructor, P.K. Yonge Laboratory School (1955-1960).

DALTON, GEORGE RONALD, Ph.D. (University of Michigan)
Professor of Nuclear Engineering Sciences (1959-1968).

DALY, JAMES W., M.D. (Loyola University)
Associate Professor of Obstetrics and Gynecology and Head of Oncology (1968-1975).

DAME, D.A., Ph.D. (University of Massachusetts)
Associate Professor of Entomology, USDA, IFAS (1970-1975).

DAMICO, ALFONSO J., Ph.D. (Ohio State University)
Associate Professor of Political Science (1969-1975).

D'AMICO, ROBERT, Ph.D. (State University of New York at Buffalo)
Assistant Professor of Philosophy (1974-1974).

DAMICO, SANDRA B., Ed.D. (University of Florida)
Assistant Professor, P.K. Yonge Laboratory School (1969-1974).

DAMRON, BOBBY LEON, Ph.D. (University of Florida)
Associate Professor and Associate Nutritionist, IFAS, (1966-1974).

DANBURG, RUSSELL LAVERNE, M.M.
Professor of Music (1948-1966).

DANIELS, A.W., M.Ed. (University of Florida)
Instructor and Assoc. Director, Office of Instructional Resources (1971-1971).

DANTZMAN, CHARLES LEONARD, Ph.D. (University of Florida)
Assistant Professor (Assistant Soils Chemist) IFAS, Agricultural Research Center, ONA (1959-1960).

DARBY, JOHN F., Ph.D. (University of Wisconsin)
Professor (Plant Pathologist) and Center Director, IFAS, Agricultural Research and Education Center, Sanford (1951-1966).

DASTA, ANTHONY JOSEPH, M.S.
Associate Professor of Architecture (1966-1975).

DAUER, MANNING JULIAN, Ph.D. (University of Illinois) Litt.D. (University of West Florida)
Distinguished Service Professor of Political Science (1933-1972). *

DAVIDSON, JAMES MELVIN, Ph.D. (University of California, Davis)
Professor (Soil Physicist), IFAS, (1974-1974).

DAVIDSON, JOHN LEITCH, Ph.D. (Purdue University)
Assistant Professor of Civil Engineering (1972-1972).

DAVIDSON, LEONARD M., Ph.D. (MIT)
Assistant Professor of Management (1973-1973).

DAVIES, MARY JANE, M.P.H. (University of North Carolina)
Assistant Professor, College of Nursing (1971-1971).

DAVIS, ALBERT JOHN, M.ARCH.
Assistant Professor of Architecture (1975-1975).

DAVIS, BILLY HAMPTON, Ed.D. (University of Florida)
Assistant Professor of Behavioral Studies, Adviser (1970-1971).

DAVIS, CARLTON GEORGE, Ph.D. (Michigan State University)
Associate Professor, Food and Resource Economics Department, IFAS (1970-1975).

DAVIS, DEAN FREDERICK, M.S. (University of Tennessee)
Professor (Entomologist), USDA, IFAS (1973-1974).

DAVIS, EDWARD W., JR., Ph.D. (University of Illinois)
Associate Professor of Electrical Engineering (1976-1976).

DAVIS, FRANCIS C., JR., Ph.D. (University of Tennessee)
Associate Professor, Microbiology and Cell Science, Arts and Sciences (1971-1976).

DAVIS, GEORGE KELSO, Ph.D. (Cornell University)
Professor of Animal Science and Animal Nutritionist (1942-1970).

DAVIS, HORACE GIBBS, JR., M.A.
Professor of Journalism and Communications (1954-1965).

DAVIS, HUGH CHESTER, JR., Ph.D. (University of Tennessee)
Professor of Clinical Psychology and Psychology (1960-1970).

DAVIS, JAMES R., M.Ed. (University of Florida)
Major, U.S. Marine Corps, Assistant Professor of Naval Science (1972-1972).

DAVIS, JOSEPH STEVEN, Ph.D. (University of Iowa)
Associate Professor of Botany, Arts and Sciences (1966-1970)

DAVIS, JOY H., Ed.D. (University of Florida)
Assistant Professor, College of Nursing (1975-1975).

DAVIS, R. HUNT, JR., Ph.D. (University of Wisconsin)
Associate Professor of History (1967-1976).

DAVIS, ROBERT W., Ph.D. (University of Florida)
Assistant Professor of Physical Sciences (1971-1972).

DAVIS, WILLIAM M., Ph.D. (New York University)
Assistant Professor of Romance Languages (1971-1971).

DAWSON, WILLIAM W., Ph.D. (Florida State University)
Professor of Ophthalmology, Physiology, Psychology and Neuroscience (1965-1969).

DE, VO HU, Ph.D. (University of Florida)
Assistant Research Scientist (Food and Resource Economics), IFAS (1975-1975).

DEAKIN, MOTLEY FREMONT, Ph.D. (Univ. of Calif. at Berkeley)
Associate Professor of English and Associate Chairperson of the Department of English (1962-1967).

DEAKTOR, DARRYL B., J.D. (University of Pennsylvania)
Associate Professor of Law (1972-1974).

DEAL, WILLIAM B., M.D. (University of North Carolina)
Associate Dean, Professor of Medicine, Community Health and Family Medicine and Pharmacy (1964-1975).

DEAN, CHARLES EDGAR, Ph.D. (North Carolina State Univ.)
Professor (Agronomist) (Agronomy Department), IFAS (1959-1969).

DEAN, JACK L., Ph.D.
Associate Professor (Plant Pathologist), USDA, IFAS (1971-1971).

DEAN, NANCY E., M.Ed. (University of Florida)
Teacher, P.K. Yonge Laboratory School (1973-1973).

DEARMIN, LINDA L., M.S. (University of Tennessee)
Associate Professor (Extension 4H-Youth Specialist), IFAS (1970-1975).

DEBUSK, FRANKLIN L., M.D. (Johns Hopkins University)
Professor of Pediatrics and Director of Pediatric Clinic (1966-1973).

DEEVEY, EDWARD S., JR., Ph.D. (Yale University)
Graduate Research Curator, Florida State Museum and Professor of Zoology and Geology (1971-1971).

DEEVEY, GEORGIANA B., Ph.D. (Yale University)
Curator in Biological Oceanography, Florida State Museum and Professor of Zoology (1971-1975).

DEFUNIAK, H.R., M.S.
Librarian and Chairperson of Circulation (1966-1976).

DEGANCE, ANTHONY EDWARD, Ph.D. (University of Florida)
Adjunct Assistant Professor (1976-1976).

DEGNER, ROBERT L., Ph.D. (Texas A & M University)
Assistant Professor and Research Economist, Food and Resource Economics Department, IFAS (1976-1976).

DEHOFF, ROBERT THOMAS, Ph.D. (Carnegie Inst. of Tech.)
Professor of Materials Science and Engineering (1959-1970).

DELONY, DEXTER, L.L.M. (Harvard University)
Professor of Law (1948-1951).

DE LOS SANTOS, ANTHONY E., M.S.
Assistant Professor of Journalism and Communications, Producer-Director, Television Station WUFT (1970-1973). *

DENG, JUENCHIN, Ph.D. (University of Georgia)
Assistant Professor (Seafood Technologist), IFAS, (1974-1974).

DENMARK, HAROLD ANDERSON, M.S. (University of Florida)
Professor (Entomologist) DPI, IFAS (1966-1966).

DENNISON, RAYMOND ALEXANDER, Ph.D. (University of Iowa)
Professor (Food Scientist) and Chairperson, Food Science Department, IFAS (1945-1956).

DENSLOW, DAVID ALBERT, Ph.D. (Yale)
Associate Professor of Economics (1970-1975). *

DENSON, ROBERT J., M.S.
Director, Student Judicial Affairs and Outreach Programs (1973-1975).

DENTON, WILLIAM HERSHALL, Ph.D. (Purdue University)
Assistant Professor (Assistant Entomologist), IFAS, Agricultural Research and Education Center, Sanford (1973-1973).

DEPADUA, CONSTANTE B., M.D. (University of the Philippines)
Associate Professor of Anesthesiology (1967-1974).

DER-HOUSSIKIAN, HAIG, Ph.D. (University of Texas)
Associate Professor of Foreign Languages and Linguistics; Director of the Center for African Studies (1967-1973).

DERRICK, CLARENCE, Ph.D. (University of Chicago)
Professor of Humanities (1953-1962).

DETWEILER, JOHN S., Ed.D. (University of Florida)
Associate Professor of Journalism and Communications (1965-1974).

DEW, DONALD, Ph.D. (University of Iowa)
Associate Professor of Speech (1963-1970).

DEWITT, ROBERT M., Ph.D. (University of Michigan)
Associate Professor and Vice Chairperson, Department of Zoology (1954-1975).

DEWSBURY, DONALD ALLEN, Ph.D. (University of Michigan)
Professor of Psychology (1966-1973).

DEYRUP, JAMES A., Ph.D. (University of Illinois)
Assistant Dean, Preprofessional Education, Colleges of Medicine and Dentistry and Professor of Chemistry (1965-1974).

DIAZ, NILS JUAN, Ph.D. (University of Florida)
Associate Professor of Nuclear Engineering Sciences (1969-1974).

DICKEY, DOUG, B.S. (University of Florida)
Head Football Coach (1969-1969).

DICKINSON, JOSHUA CLIFTON, JR., Ph.D. (Univ. of Florida)
Director and Curator of Ornithology, Florida State Museum, Professor of Zoology (1946-1961).

DICKSON, DONALD WARD, Ph.D. (North Carolina State)
Associate Professor in Entomology, IFAS (1968-1968).

DICKISON, SHEILA K., Ph.D. (Bryn Mawr College)
Associate Professor of Classics (1976-1976).

DIETRICH, FRANK H., II, Ph.D. (University of Florida)
Assistant Professor of Statistics (1975-1975).

DILLER, GEORGE T., Ph.D. (Stanford University)
Associate Professor of French (1968-1973).

DIRECTOR, STEPHEN WILLIAM, Ph.D. (University of California)
Professor of Electrical Engineering (1968-1974).

DIXON, J. C., Ph.D. (University of North Carolina)
Professor of Psychology (1949-1956).

DIXON, RONALD L., D.M.D. (University of Florida)
Assistant Professor of Community Dentistry, College of Dentistry (1976-1976).

DOCKERY, J. LEE, M.D. (University of Arkansas)
Associate Professor of Obstetrics and Gynecology (1975-1975).

DODDINGTON, HAROLD WILLIAM, Ph.D. (University of Florida)
Associate Engineer in Engineering Sciences (1974-1976).

DOERING, PAUL LOUIS, M.S.P. (University of Florida)
Assistant Professor of Pharmacy (1976-1976).

DOHERTY, HERBERT JOSEPH, Ph.D. (Univ. of North Carolina)
Professor of History and Social Sciences and Chairperson of Social Sciences (1949-1964). *

DOLBIER, WILLIAM READ, JR., Ph.D. (Cornell University)
Professor of Chemistry (1966-1975).

DOMINIAK, KENNETH E., Ph.D. (Polytechnic Institute of Brooklyn)
Associate Professor of Industrial and Systems Engineering and Electrical Engineering, Eglin-AFB (1970-1972).

DONELIN, DANIEL WILLIAM, M.L.A.
Associate Professor of Landscape Architecture (1970-1976).

DONIVAN, FRANK FORBES, JR., Ph.D. (University of Florida)
Assistant Professor of Physical Sciences and Astronomy (1970-1971).

DONNELLY, WILLIAM H., M.D. (University of Ottawa, Canada)
Associate Professor in Pathology and Pediatrics (1971-1976).

DONOVAN, CLEMENT HAROLD, Ph.D. (Univ. of North Carolina)
Professor of Economics (1940-1948).

DONSELMAN, HENRY MARTIN, Ph.D. (Purdue University)
Assistant Professor (Extension Ornamental Horticulturist), IFAS, Agricultural Research Center, Ft. Lauderdale (1976-1976).

DORMAN, P. E., Ed.D. (State University of New York)
Associate Professor of Music (1971-1971).

DOTY, KEITH LONNIE, Ph.D. (University of California)
Associate Professor of Electrical Engineering (1968-1973).

DOUGHERTY, MARSHALL HARDING, B.S.
Adjunct Assistant Professor (Assistant Chemical Engineer), IFAS, DC, AREC—Lake Alfred (1952-1957).

DOUGHERTY, MOLLY CROCKER, Ph.D. (University of Florida)
Associate Professor, College of Nursing (1973-1973).

DOUGHTY, PAUL L., Ph.D. (Cornell University)
Professor and Chairperson of Anthropology (1971).

DOUGLAS, CARROLL REECE, Ph.D. (University of Tennessee)
Associate Professor (Associate Extension Poultryman), IFAS (1969-1973).

DOUGLAS, MICHAEL E., M.D. (University of Arizona)
Assistant Professor of Anesthesiology (1976-1976).

DOVE, DEREK B., Ph.D. (London University)
Professor of Materials Science and Engineering; Professor of Electrical Engineering (1967-1971).

DOW, J. KAMAL, Ph.D. (University of Missouri)
Associate Professor (Assoc. Ag. Econ.) & Chief of Party (Ecuador), IFAS (1968-1973).

DOWNIE, RICHARD D., Ph.D. (Michigan State University)
Assistant Dean, International Student Services (1976-1976).

DOWNS, JOHN B., M.D. (University of Florida)
Assistant Professor of Anesthesiology and Surgery, VAH (1975-1975).

DRAKE, DAVID ALLYN, Ph.D. (Syracuse University)
Associate Professor of Mathematics (1968-1973).

DRAPER, JAMES ARTHUR, Ph.D. (University of Washington)
Assistant Professor of Mathematics (1972-1972).

DRESDNER, RICHARD DAVID, Ph.D. (Pennsylvania State University)
Professor of Chemistry (1953-1966).

DRUMMOND, BOYCE, A., Ph.D. (University of Florida)
Visiting Adjunct Assistant Professor of Zoology (1976-1976).

DRUM, CAROL ANN, M.L.S.
Assistant Librarian in Charge of Chemistry Library (1972-1972).

DRUMMOND, WILLIAM H., Ed.D. (Stanford University)
Professor of Education (1972-1972).

DRYLIE, DAVID M., M.D. (Bowman Gray University)
Professor and Chief, Urology, Department of Surgery (1963-1974).

DUBOIS, WILLIAM L., B.C.E. (University of Florida)
Assistant Professor of Naval Science (1975-1975).

DUCHARME, ERNEST P., Ph.D. (University of Minnesota)
Professor (Assistant Center Director and Plant Pathologist) IFAS, AREC-Lake Alfred (1946-1956).

DUCKWORTH, ALISTAIR M., Ph.D. (Johns Hopkins University)
Associate Professor of English (1973-1973).

DUCKWORTH, DONNA H., Ph.D. (Johns Hopkins University)
Associate Professor of Immunology and Medical Microbiology (1973-1975).

DUDECK, A.E., Ph.D. (Pennsylvania State University)
Associate Professor (Associate Ornamental Horticulturist), IFAS, (1970-1973).

DUFTY, JAMES WELLONS, Ph.D. (Lehigh University)
Associate Professor of Physics (1970-1974).

DUGAN, ROBERT JOHN, M.S.E. (University of Florida)
Assistant in Chemistry (1969-1970).

DUGGAN, DENNIS E., Ph.D. (Oregon State University)
Associate Professor, Microbiology and Cell Science, Arts and Sciences; Associate Microbiologist, IFAS (1969-1969).

DUNAVANT, BILLY G., Ph.D. (Purdue University)
Director, Environmental Health and Safety; Professor of Nuclear Engineering Sciences, Environmental Engineering Sciences, and Basic Dental Sciences (1960-1966).

DUNAVIN, LEONARD SYPRET, JR., Ph.D. (University of Florida)
Associate Professor (Associate Agronomist), IFAS Agricultural Research Center, JAY (1959-1967).

DUNCAN, ANDREW ADRIAN, Ph.D. (University of Maryland)
Professor and Center Director, Agricultural Research and Education Center, Homestead, IFAS (1975-1975).

DUNCAN, RUTH W., M.A. (University of Alabama)
Teacher, P.K. Yonge Laboratory School (1972-1972).

DUNCAN, WILLIAM GRAHAM, Ph.D. (Purdue University)
Professor of Agronomy, IFAS (1970-1970).

DUNKLE, JOHN ROBERT, Ph.D. (Clark University)
Professor of Physical Sciences and Geography; Assistant Dean University College (1949-1965).

DUNN, ADRIAN J., Ph.D. (University of Cambridge)
Assistant Professor of Neuroscience (1973-1973).

DUNN, BEN M., Ph.D. (University of California at Santa Barbara)
Assistant Professor of Biochemistry and Molecular Biology (1974-1974).

DUNN, JAMES H., B.S.P.E. (University of Florida)
Assistant Football Coach (1969-1969).

DUNN, ROBERT A., Ph.D. (Cornell University)
Assistant Professor (Assistant Nematologist), IFAS (1975-1975).

DUNNAM, FRANCIS EUGENE, Ph.D. (Louisiana State University)
Professor of Physics and Physical Sciences and Chairperson of Physics and Astronomy (1958-1975).

DURELL, PHYLLIS B.
Assistant to the President (1947-1973).

DURLING, ALLEN EDGAR, Ph.D. (Syracuse University)
Professor of Electrical Engineering (1964-1970).

DURRANCE, KENNETH LEROY, M.Ag.
Professor (Animal Husbandman), IFAS (1954-1976).

DU-TOIT, BRIAN MURRAY, Ph.D. (University of Oregon)
Professor of Anthropology (1966-1975).

DYKES, ELMA ETHEL, M.A. (New York University)
Assistant Professor, College of Nursing (1962-1966).

DYKES, MARY KAY, Ph.D. (University of Texas)
Assistant Professor of Education (1972-1972).

EADES, JAMES LYNWOOD, Ph.D. (University of Illinois)
Associate Professor of Geology and Civil Engineering and Chairperson of Geology (1970-1973).

EAGERMAN, BRADLEY A., Ph.D. (University of Massachusetts)
Assistant Professor (Assistant Food Scientist), IFAS, AREC-Lake Alfred (1974-1974).

EASLEY, JOHN FOREST, M.S.
Assistant Professor (Assistant Animal Nutritionist) IFAS (1962-1962).

EASTON, IAN, Ph.D. (University of Florida)
Administrative Director, Outpatient Clinics (1975-1975).

EASTWOOD, RALPH ALLEN, Ph.D. (Cornell)
Professor, Food and Resource Economics Department IFAS (1957-1957).

EBCIOGLU, IBRAHIM K., Ph.D. (University of Minnesota)
Professor of Engineering Sciences (1961-1966).

ECKDAHL, JACK POLK, M.Ed.
Assistant Professor of Recreation (1951-1955).

EDDS, GEORGE TYSON, D.V.M. (Texas A & M University), Ph.D. (University of Minnesota)
Professor (Veterinarian), College of Veterinary Medicine-IFAS (1962-1971).

EDDY, ELIZABETH M., Ph.D. (Columbia University)
Professor of Anthropology (1967-1974).

EDSON, CHARLES GRANT, M.S.E. (University of Florida)
Associate Professor of Engineering Sciences (1946-1951).

EDWARDS, BRUCE HAVEN, Ph.D. (Dartmouth College)
Assistant Professor of Mathematics (1976-1976).

EDWARDS, GEORGE JOHN, B.A.
Assistant Professor (Assistant Biochemist) IFAS, Agricultural Research and Education Center, Lake Alfred (1953-1970).

EDWARDSON, JOHN RICHARD, Ph.D. (Harvard University)
Professor of Agronomy, IFAS (1953-1966).

EDWARDSON, MICKIE N., Ph.D. (Michigan State University)
Professor of Journalism and Communications, (1956-1971). *

EGAN, EDMUND A., II, M.D. (Emory University)
Associate Professor of Pediatrics; Director, Regional Neonatal Intensive Care Programs (1973-1976).

EIDSON, GERALD H., B.S.
Associate in Medical Program Development, Office of Vice President for Health Affairs, J. Hillis Miller Health Center (1975-1975).

EILAND, BARNEY RAY, M.S. (Cornell University)
Assistant Professor (Assistant Agricultural Engineer), IFAS, Agricultural Research and Education Center, Belle Glade (1974-1974).

EISENBERG, MARTIN ALLAN, D.Eng. (Yale University)
Professor of Engineering Sciences (1966-1975).

EITZMAN, DONALD V., M.D. (University of Iowa)
Professor in Pediatrics (1958-1969).

ELDRIDGE, J. EVAN, M.S.E.E. (Fla. Institute of Technology)
Computer Research Specialist, Bureau of Economic and Business Research (1971-1975).

ELGERD, OLLE INGEMAR, D.Sc. (Washington University of St. Louis, Missouri)
Professor of Electrical Engineering (1956-1962). *

ELKINS, VIRGIL LYNN, M.S.A. (Florida A & M)
Professor, Food and Resource Economics Department, IFAS (1949-1961).

ELLENSON, EUGENE, B.A.
Director of Gator Boosters (1960-1974).

ELLINGWOOD, KENNETH E., M.D. (University of Missouri)
Assistant Professor of Radiation Therapy (1976-1976).

ELLIOTT, HERSCHEL HUGH, Ph.D. (Yale University)
Associate Professor of Philosophy (1955-1960).

ELLIOTT, PAUL R., Ph.D. (University of Michigan)
Assistant Dean for Tallahassee Program in Medical Sciences and Professor, College of Medicine (1971-1974).

ELLIS, BETTY RUTH, Ed.D. (Wayne State University)
Assistant Professor of Education (1965-1968). *

ELLIS, WILLIAM HOBART, Ph.D. (Florida State University)
Associate Professor of Nuclear Engineering Sciences (1962-1966).

ELMORE, WILLIAM E., B.S. C.P.A. (The Citadel)
Vice President for Administrative Affairs (1950-1967).

ELMSTROM, Gary William, Ph.D. (University of California)
Associate Professor (Associate Horticulturalist), IFAS, Agricultural Research Center, Leesburg (1969-1974).

ELNICKI, RICHARD A., D.B.A. (Harvard University)
Associate Professor of Management and Associate Professor of Health and Hospital Administration (1971-1971).

EMERSON, ANN P., M.S. (University of Florida)
Program Director and Associate Professor, Department of Clinical and Community Dietetics, IFAS (1969-1974).

EMERSON, ROBERT D., Ph.D. (Purdue University)
Associate Professor, Food and Resource Economics Department, IFAS (1970-1976).

EMMEL, THOMAS C., Ph.D. (Stanford University)
Professor and Chairperson, Department of Zoology (1968-1976).

ENGELHARD, ARTHUR W., Ph.D. (Iowa State University)
Associate Professor (Associate Plant Pathologist) IFAS, Agricultural Research and Education Center, Bradenton (1966-1966).

ENNEKING, WILLIAM F., M.D. (University of Wisconsin)
Professor and Chairman, Department of Orthopaedic Surgery (1959-1974). •

ENNIS, WILLIAM B., Ph.D. (University of Wisconsin)
Professor and Center Director, IFAS, Agricultural Research Center, Ft. Lauderdale (1975-1975).

ENO, CHARLES FRANKLIN, Ph.D. (Purdue University)
Professor (Soil Microbiologist) and Chairperson of Soil Science Department, IFAS (1950-1965).

ENOCH, JAY M., Ph.D. (Ohio State University)
Graduate Research Professor of Ophthalmology (1973-1973).

ENTNER, MARVIN LEE, Ph.D. (University of Minnesota)
Associate Professor of History (1961-1968).

EOFF, KAY MARVIN, Ph.D. (University of Florida)
Assistant Professor of Physical Sciences (1962-1968).

EPPES, BILL GORTON, M.Arch.
Professor of Building Construction (1968-1973).

EPTING, FRANZ R., Ph.D. (Ohio State University)
Associate Professor of Psychology (1967-1974).

ERICKSON, ROBERT A., M.D. (University of Florida)
University Physician (1974-1974).

ESPINO, HORTENCIA H., M.D. (University of East Ramon Magsaysay Memorial Medical Center)
Instructor of Pediatrics (JMEP) (1974-1974).

ERISMAN, JOHN G., Ph.D. (University of Illinois)
Associate Professor for Extension Environment and Safety, IFAS (1975-1975).

EVERETT, PAUL HARRISON, Ph.D. (Purdue University)
Professor (Soils Chemist), IFAS Agricultural Research Center, Immokalee (1958-1968).

EWEL, JOHN J., Ph.D. (University of North Carolina)
Associate Professor of Botany, IFAS (1971-1976).

EWEL, KATERINE C., Ph.D. (University of Florida)
Assistant Research Scientist, IFAS (1972-1972).

FADER, SONIA H., B.A.
Assistant in Broadcasting, College of Journalism and Communications (1976-1976).

EYLER, JOHN ROBERT, Ph.D. (Stanford University)
Assistant Professor of Chemistry (1974-1974).

FABRICK, ARTHUR L., M.S.W. (University of North Carolina)
Associate Professor of Psychiatric Social Work (1959-1973).

FAGERBERG, SEIGFRED WALTER, Ed.D. (Univ. of So. Mississippi)
Associate Professor and Chairperson of Health Education and Safety (1971-1976).

FAHIEN, RAYMOND W., Ph.D. (Purdue University)
Professor of Chemical Engineering (1964-1964).

FAIRBANKS, CHARLES H., Ph.D. (University of Michigan)
Distinguished Service Professor of Anthropology (1963-1976).

FAIRCHILD, ALEXANDER GRAHAM BELL, Ph.D. (Harvard University)
Professor (Entomologist), Gorgas, Memorial Lab., Canal Zone, IFAS (1968-1968).

FAIRCHILD, GARY F., Ph.D.
Assistant Professor, Food and Resource Economics Department, DC, IFAS (1971-1971).

FARBER, ERICH ALEXANDER, Ph.D. (Iowa)
Professor of Mechanical Engineering (1954-1954).

FARICY, JOHN H., Ph.D. (University of Minnesota)
Assistant Dean of Undergraduate Study, College of Business Administration and Associate Professor of Marketing (1966-1974).

FARMER, K. BOLLING, Ph.D. (University of Texas)
Assistant Pfofessor of Mathematics (1974-1974).

FARQUHAR, JOHN S., JR., M.D. (Indiana University)
Assistant Professor in Community Health and Family Medicine (JHEP) (1974-1974).

FARRINGTON, WILLIAM S., Ph.D. (Ohio State University)
Assistant Professor of Agricultural and Extension Education (1974-1974).

FAST, THOMAS B., D.D.S. (Ohio State University) M.S.D. (Indiana University)
Assistant Dean for Clinical Affairs and Professor of Oral Medicine, College of Dentistry (1971-1974).

FEARN, RICHARD LEE, Ph.D. (University of Florida)
Associate Professor of Engineering Sciences (1965-1975).

FEARN, ROBIN ARNOLD CRAIG, M.S.
Assistant Director of Libraries (1969-1969).

FEARNEY, EDWARD MAURICE, B. Arch.
Associate Professor of Architecture (1946-1958). •

FEASTER, JOHN PIPKIN, Ph.D. (University of North Carolina)
Professor (Biochemist), IFAS (1951-1968).

FEINBERG, ROBERT M., B.S., B.A. (University of Florida)
Associate Director, Office of Instructional Resources (1962-1974).

FEINSINGER, CLAUDIA MARTIN (Ithaca College)
Visiting Teacher P.K. Yonge Laboratory School.

FEINSINGER, PETER, Ph.D. (Cornell University)
Assistant Professor of Zoology (1976-1976).

FEISS, C., M.C.P., F.A.I.A., A.I.P.
Professor of Urban and Regional Planning (1971-1975).

FELDHERR, CARL M., Ph.D. (University of Pennsylvania)
Associate Professor of Anatomy and Biochemistry and Molecular Biology (1967-1970).

FELDMAN, ALBERT W., Ph.D. (University of Minnesota)
Professor (Plant Pathologist) IFAS, AREC-Lake Alfred (1959-1959).

FELDMAN, JACK M., Ph.D. (University of Illinois)
Associate Professor of Management (1972-1975).

FELICE, KATHLEEN A., M.R.C. (University of Florida)
Visiting Assistant in Rehabilitation (1975-1975).

FELLERS, PAUL J., Ph.D. (Michigan State University)
Adjunct Assistant Professor (Assistant Food Technologist) IFAS, DC, AREC-Lake Alfred (1965-1965).

FELMAN, ALVIN H., M.D. (University of Cincinnati)
Professor of Radiology (1969-1974).

FENN, HENRY ANDERSON, LL.B. (Yale University)
Professor of Law, Dean Emeritus, and Distinguished Service Professor, College of Law (1948-1975).

FENNELL, ROBERT S., III, M.D. (University of Florida)
Assistant Professor of Pediatric Nephrology and Medical Director for the Comprehensive Children's Kidney Treatment Center (1973-1974).

FENNO, CHARLES C., M.B.A. (Columbia University)
Associate Director of Development Foundations and Corporations (1974-1974).

FERGUSON, RAYMOND CARL, M.Ed.
Associate Professor of Education (1962-1975).

FERGUSON, SARAH CAROLINE, M.S., in L.S.
Associate Librarian, P.K. Yonge Laboratory School (1951-1962).

FERKOVICH, STEPHEN MICHAEL, Ph.D. (University of Wyoming)
Assistant Professor (Assistant Entomologist), IFAS, USDA (1973-1973).

FIELD, F. PETER, Ph.D. (University of Florida)
Associate Professor of Pharmacy and Physiology and Associate Chairman, Pharmacy (1973-1973).

FIELDS, MICHAEL J., Ph.D. (Texas A & M University)
Assistant Professor (Assistant Animal Physiologist), IFAS (1973-1973).

FIGUERAS, JUAN A., Ph.D. (University of Havana)
Associate Research Scientist, International Programs, IFAS, Bolivia (1976-1976).

FILER, JOHN E. (Chicago)
Interim Assistant Professor of Economics (1974-1974).

FILLMER, HENRY T., Ph.D. (University of Ohio)
Professor of Education (1967-1972).

FINGER, KENNETH FRANKLIN, Ph.D. (University of Wisconsin)
Associate Vice President for Health Affairs, Dean and Professor, College of Pharmacy (1968-1974).

FINLAYSON, BIRDWELL, M.D., Ph.D. (University of Chicago)
Professor of Surgery (1967-1973).

FINLAYSON, EDWIN H., M.S.A. (University of Florida)
Associate in Agricultural Economics (1973-1975).

FINLEY, MARTHA CLAUDETTE, M.S. (Vanderbilt University)
Associate Professor of Physical Therapy (1969-1974).

FINN, HARVEY D.,
Systems Coordinator (1967-1976).

FISCHLER, IRA SAMUEL, Ph.D. (Stanford University)
Assistant Professor (1973-1973).

FISCHLSCHWEIGER, WERNER, Ph.D. (University of Graz)
Professor of Basic Dental Sciences, College of Dentistry (1969-1973).

FISHER, DALE J., Ph.D. (Indiana University)
Professor of Chemistry and Professor of Radiology. VAH (1974-1974).

FISHER, FRANCES W., M.Ed. (University of Florida)
Assistant Professor of Medical Technology (1973-1974).

FISHER, FRANCINE E., M.S.
Assistant Professor, (Assistant Plant Pathologist) IFAS, Agricultural Research and Education Center, Lake Alfred (1946-1946).

FISHER, JAMES F., Ph.D. (Pennsylvania State University)
Adjunct Associate Professor (Associate Chemist) IFAS, DC, AREC-Lake Alfred (1969-1969).

FISHER, MARTIN J., Ph.D. (West Virginia University)
Assistant Professor of Physiology (1974-1974).

FISHER, NORMA PAIGE, M.A.E. (University of Florida)
Associate Professor of Physical Therapy and Neurology (1964-1972).

FISHER, WALDO R., M.D. (University of Pennsylvania)
Associate Professor of Medicine and Biochemistry and Molecular Biology (1965-1971).

FISKELL, JOHN GARTH AUSTIN, Ph.D. (McGill University)
Professor of Soil Science (Soil Biochemistry), IFAS (1951-1961).

FISHKIND, HENRY H., Ph.D. (Indiana University)
Assistant Professor of Economics; Assistant Professor, Bureau of Economic and Business Research (1975-1975).

FITCH, JOHN S., III. Ph.D. (Yale University)
Assistant Professor of Political Science (1971-1973).

FITZGERALD, CONSTANCE K., M.D. (Washington University)
Associate Professor of Ophthalmology (1971-1975).

FITZGERALD, LAWRENCE T., Ph.D. (University of Florida)
Assistant Professor of Radiology (1974-1974).

FITZGERALD, PAUL W., Ed.D. (Florida State University)
Associate Professor of Radiology (1961-1974).

FITZPATRICK, GEORGE, Ph.D. (Rutgers University)
Assistant Research Scientist (Entomologist), IFAS, Agricultural Research Center, Ft. Lauderdale (1976-1976).

FLANNERY, MERLE ELIZABETH, Ed.D. (Pennsylvania State University)
Assistant Professor of Education (1966-1966).

FLESHER, CAROL K., Ph.D. (University of Florida)
Counseling Psychologist, University Counseling Center, Assistant Professor of Psychology (1965-1965).

FLIPPO, RONA F., M.Ed. (University of North Florida)
Teacher, P.K. Yonge (1975-1975).

FLOWERS, JOHN WILSON, Ph.D. (University of Virginia)
Professor of Physics (1947-1953).

FLUCK, RICHARD CONRAD, Ph.D. (North Carolina State University)
Associate Professor (Associate Agricultural Engineer) IFAS, (1965-1969).

FOGLER, H. RUSSELL, Ph.D. (Columbia University)
Associate Professor of Management (1971-1972).

FOLKERTS, LORRAINE NERO, B.S.P
Assistant in Pharmacy (1974-1975).

FORBES, JAMES T., Ph.D. (University of Mississippi)
Instructor of Pathology (1974-1974).

FORBES, RICHARD B., Ph.D. (Pennsylvania State University)
Associate Professor (Associate Soils Chemist), IFAS, Agricultural Research and Education Center, Sanford (1948-1967).

FORD, HARRY W., Ph.D. (Ohio State University)
Professor (Horticulturist) IFAS, AREC—Lake Alfred (1950-1962).

FOREMAN, RONALD C., JR., Ph.D. (University of Illinois)
Associate Professor of English, Director of Afro-American Studies Program (1970-1970).

FORGNONE, CHARLES, Ed.D. (George Peabody College)
Professor of Education (1970-1976).

FORRESTER, DONALD JASON, Ph.D. (University of California)
Associate Professor (Associate Parasitologist), College of Veterinary Medicine—IFAS (1969-1973).

FOSTER, MAELEE THOMSON, M.F.A.
Associate Professor of Architecture (1971-1976).

FOUSE, SARAH BAIRD, M.M.
Associate Professor of Music (1968-1974).

FOUST, CHARLES WILMOTT, B.S.
Assistant in Chemical Education (1970-1970).

FOWLER, R.E., M.Ed. (University of Florida)
Visiting Assistant Professor of Education (1973-1976).

FOX, DALLAS R., M.S.A. (University of Florida)
Associate Director, Division of Planning and Analysis (1974-1974).

FOX, JACKSON LELAND, Ph.D. (University of Minnesota)
Associate Professor of Environmental Engineering Sciences (1969-1975).

FOX, WILLIAM MCNAIR, Ph.D. (Ohio State University)
Professor of Industrial Relations and Management (1954-1963).

FRANCIS, RICHARD LANE, Ph.D. (Northwestern University)
Professor of Industrial and Systems Engineering (1971-1971).

FRANCIS, VIRGINIA GLADYS, M.A.
Associate Librarian, Reference and Bibliography (1964-1971).

FRANCO, ADRIENNE, M.L.S. (Queens College)
Assistant Librarian, Catalog Department (1976-1976)

FRANKEL, LAWRENCE S., M.D. (State University of New York)
Instructor of Pediatrics (1976-1976).

FRANKLIN, HERBERT, Ed.D. (Indiana University)
Assistant Professor of Education (1974-1974).

FRANZ, LAWRENCE R., JR., M.S.T.
Associate in Natural Sciences, Florida State Museum (1972-1972).

FRAUMAN, SALLY A., M.S.N. (University of Florida)
Instructor, College of Nursing (1974-1974).

FRAZER, WILLIAM JOHNSON, JR., Ph.D. (Columbia University)
Professor of Economics (1957-1968). *

FRAZER, WINIFRED LOESCH, Ph.D. (University of Florida)
Professor of English (1955-1972).

FRAZIER, CHARLES EDWIN, Ph.D. (Southern Illinois University)
Assistant Professor of Sociology (1972-1972).

FREE, C. BURTON, B.S.
Clinical Instructor of Pharmacy (1973-1973).

FREELAND, JAMES JACKSON, J.D. (University of Florida)
Professor of Law (1957-1963). *

FREEMAN, ELEANOR F. L., R.N.
Instructor, Manager of Operating Room (1966-1966).

FREEMAN, GEORGE ROLAND, M.S.A. (University of Florida)
Assistant Professor (Assistant Agricultural Engineer) and Assistant Director, Agricultural Experiment Stations, IFAS (1950-1972).

FREEMAN, THOMAS EDWARD, Ph.D. (Louisiana State University)
Professor (Plant Pathologist) IFAS, (1956-1968).

FREEMAN, WATSON LOUIS, M.S.E.
Assistant Professor of Mechanical Engineering; Assistant Dean of the College of Engineering (1953-1975).

FREGLY, MARILYN S., Ph.D. (University of Florida)
Assistant Professor of Behavioral Studies and Journalism (1973-1973).

FREGLY, MELVIN J., Ph.D. (University of Rochester)
Professor of Physiology (1956-1965).

FRENCH, WILLIAM JOHN, Ph.D. (New York State University)
Associate Professor (Associate Plant Pathologist), IFAS, Agricultural Research Center, Monticello (1968-1974).

FREUND, GERHARD, M.D. (J.W. Goethe University, Germany)
Professor of Medicine, VAH (1963-1975).

FRIAS, JAIME L., M.D. (University of Chile)
Associate Professor of Pediatrics and Director of Birth Defects Center (1970-1974).

FRIED, MELVIN, Ph.D. (Yale University)
Professor of Biochemistry and Molecular Biology and Assistant Dean for Graduate Education in Medical Sciences (1956-1972).

FRIEDMAN, PHILIP, Ph.D. (Massachusetts Institute of Technology)
Assistant Professor of Economics (1972-1972).

FRIEL, JANETTE, M.S. (University of Florida)
Associate in Clinical Psychology (1970-1975).

FRISTOE, CHARLES WESLEY, Ph.D. (University of Illinois)
Associate Professor of Economics (1950-1955).

FRITZ, GEORGE J., Ph.D. (Purdue University)
Associate Professor (Associate Plant Pathologist), IFAS (1960-1964).

FRY, JACK LEROY, Ph.D. (Purdue University)
Professor (Poultry Science), Assistant Dean for Resident Instruction, IFAS (1964-1975).

FUJIMOTO, JUNHEI, D.D.S. (Kyushu Dental University), M.S.D. (Indiana University)
Assistant Professor of Occlusion and Fixed Prosthodontics, College of Dentistry (1976-1976).

FULLER, GARY, B.Litt. (Oxford University)
Assistant Professor of Philosophy (1972-1972).

FULLER, THOMAS J., M.D. (Northwestern University)
Assistant Professor of Medicine, VAH (1975-1976).

FULLINGTON, ROBERT S., B.S.B.A. (Univ. of Fla.)
Director, Admissions and Records Computer Systems (1973-1976).

FUNK, ARTHUR LAYTON, Ph.D. (University of Chicago)
Professor of History and Humanities and Chairperson of Department of History (1946-1962).

FUNKE, FREDERICK W., D.D.S. (Marquette University), M.S. (University of Iowa)
Associate Professor and Chairman of Oral Surgery, College of Dentistry (1975-1975).

FUNKHOUSER, ROBERT E., JR., M.S. (Rensselaer Institute)
Lt. Colonel, U.S. Air Force, Associate Professor of Aerospace Studies (1974-1974).

FUQUAY, STEPHEN FREDERIC, M.A., M.S.
Assistant Librarian, Catalog (1972-1972).

FURMAN, THOMAS DESAUSSURE, M.S.E. (University of Florida)
Professor of Environmental Engineering Sciences and Professor of Civil Engineering (1951-1964).

GABBAY, EDMOND J., Ph.D. (Columbia University)
Professor of Chemistry and Biochemistry and Molecular Biology (1969-1975).

GABIANELLI, VINCENT JAMES, M.E.D.
Curator and Chairman of Department of Interpretation, Florida State Museum (1968-1971). *

GADSDEN, THOMAS, Ed.D. (University of Florida)
Assistant Professor, P.K. Yonge Laboratory School (1967-1971).

GAFFNEY, JEROME JOSEPH, M.S. (Pennsylvania State University)
Assistant Agricultural Engineer, USDA, IFAS, (1966-1966).

GAITANIS, LOUIS ANDREW, J.D. (University of Florida)
Associate Professor of Real Estate and Urban Analysis (1946-1951).

GAITHER, ROBERT BARKER, Ph.D. (University of Illinois)
Professor of Mechanical Engineering and Chairperson of Department (1962-1966).

GALE, MARC A., D.M.D. (Tufts University)
Assistant Professor of Operative Dentistry, College of Dentistry (1972-1972).

GALE, STEVEN H., Ph.D. (University of Southern California)
Associate Professor of English (1974-1974).

GALLAHER, RAYMOND N., Ph.D. (University of Georgia)
Associate Professor of Agronomy, IFAS (1976-1976).

GAMBLE, JOHN F., Ph.D. (Rutgers University)
Associate Research Scientist of Botany, IFAS (1967-1975).

GAMMON, NATHAN, JR., Ph.D. (Ohio State University)
Professor of Soil Science (Soil Chemistry), IFAS (1946-1946).

GANGULY, RAMA, Ph.D. (University College of Science and Technology, Calcutta)
Assistant Professor of Medicine (1975-1976).

GANNON, MICHAEL VALENTINE, Ph.D. (University of Florida)
Professor of Religion and History and Assistant Dean, College of Arts and Sciences (1967-1974).

GANO, OVID RAYMOND, B.E.E. (University of Florida)
Assistant Professor in Radiology (1970-1970).

GARCIA-BENGOCHEA, FRANCISCO, M.D. (University of Havana and Tulane University)
Distinguished Service Professor of Surgery (1962-1976).

GARDNER, VIRGINIA D., M.S. (North Carolina State-Raleigh)
Extension Home Economics Agent III, IFAS (1951-1970).

GARG, LAL C., Ph.D. (University of Florida)
Associate Professor of Pharmacology and Therapeutics (1970-1976).

GARIN, EDUARDO H., M.D. (University of Chile)
Assistant Professor of Pediatrics and Assistant Director of Comprehensive Children's Kidney Treatment Center, Instructor in Pediatric Nephrology and Special Trainee (1974-1975).

GARNICA, ADOLFO D., M.D. (University of California)
Assistant Professor in Pediatrics and Chief of the Gastroenterology Unit (1974-1975).

GARRARD, LEON A., Ph.D. (University of Florida)
Associate in Plant Physiology, IFAS (1963-1972).

GARRETT, EDWARD ROBERT, Ph.D. (Michigan State University)
Graduate Research Professor of Pharmacy (1961-1961).

GARRETT, RICHARD EDWARD, Ph.D. (University of Virginia)
Professor of Physics and Physical Sciences and Associate Chairperson of Physics (1963-1974).

GARRIGUES, ROBERT G., Ph.D. (Florida State University)
Associate in Health and Hospital Administration and Head, Planning and Budgeting Section, Office of Vice President for Health Affairs (1971-1971).

GARRINGTON, GEORGE E., D.D.S. (University of Maryland), M.P.H. (Johns Hopkins University), M.S. (Georgetown University)
Assistant Dean for Admissions and Student Financial Aid and Professor of Oral Medicine, College of Dentistry (1973-1974).

GARRISON, ROBERT D., M.D. (University of North Carolina)
Assistant Professor of Pediatrics (JHEP) (1973-1973).

GARVIN, JEWEL H., A.B., B.S., in L.S.
Librarian, J. Hillis Miller Health Center Library (1960-1964).

GASCHE, ROBERT THURSTON, M.Ed.
Instructor, P.K. Yonge Laboratory School (1968-1972).

GASCHO, GARY JOHN, Ph.D. (Michigan State University)
Associate Professor (Associate Plant Nutritionist), IFAS, Agricultural Research and Education Center, Belle Glade (1968-1973). *

GASKIN, JACK MICHAEL, D.V.M., Ph.D. (Cornell University)
Assistant Professor (Assistant Virologist) College of Veterinary Medicine-IFAS and Professor of Immunology and Medical Microbiology (1973-1973).

GASKINS, MURRAY HENDRICKS, Ph.D. (University of Florida)
Professor (Plant Physiologist), IFAS, USDA (1973).

GASSET, ANTONIO R., M.D. (Boston University)
Associate Professor of Ophthalmology (1971-1975).

GATER, ROGER ALLEN, Ph.D. (Purdue University)
Associate Professor of Mechanical Engineering (1968-1973). *

GAY-CROSIER, RAYMOND, Docteur es Lettres (Berne University)
Professor of French (1967-1973).

GEBHARDT, BRYAN M., Ph.D. (Tulane University)
Associate Professor of Pathology (1969-1974).

GEHAN, FREDERICK EDWARD, M.A.F.
Associate Professor of English (1946-1955).

GELATT, KIRK N., V.M.D. (University of Pennsylvania)
Professor, College of Veterinary Medicine and Department of Ophthalmology, College of Medicine (1976-1976).

GELLINEK, CHRISTIAN J., Ph.D. (Yale University); Habilitation (Basel University)
Professor and Chairperson of Germanic and Slavic Languages and Literatures (1971-1971). *

GELMAN, STANLEY R., M.D. (University of Florida)
Assistant Professor of Obstetrics and Gynecology (1975-1975).

GENUNG, WILLIAM GORDON, M.S. (University of Florida)
Professor (Entomologist), IFAS, Agricultural Research and Education Center, Belle Glade, (1949-1970).

GEORGE, PAUL S., Ed.D. (George Peabody College for Teachers)
Associate Professor of Education (1971-1976).

GERALDSON, CARROLL MORTON, Ph.D. (University of Wisconsin)
Professor (Soils Chemist), IFAS Agricultural Research and Education Center, Bradenton (1951-1969).

GERBER, JOHN FRANCIS, Ph.D. (University of Missouri)
Professor (Climatologist) and Director, Center for Environmental Programs and Natural Resources, IFAS (1960-1973).

GERENCSER, GEORGE A., Ph.D. (Indiana University)
Assistant Professor of Physiology (1975-1975).

GESSNER, IRA H., M.D. (University of Vermont)
Professor of Pediatrics (1960-1970).

GETZEN, SAMUEL PACE
Manager, Campus Shop and Bookstore (1949-1960).

GIBBS, CHARLES H., Ph.D. (Case Western Reserve University)
Assistant Professor of Basic Dental Sciences, College of Dentistry (1974-1974).

GIBBS, CHARLES M., B.A. (University of Tampa)
Captain, U.S. Army, Assistant Professor of Military Science (1976-1976).

GIBBS, CHARLES P., M.D. (Indiana University)
Associate Professor of Anesthesiology and Obstetrics and Gynecology and Coordinator of Clinical Teaching in OB Anesthesia (1972-1976).

GIBSON, ATHOLL V., Ph.D. (University of Natal)
Assistant Research Scientist of Physics (1974-1975).

GIBSON, DAVID WYLIE, M.S.C.E. (University of Miami)
Associate Professor of Civil Engineering (1974-1974).

GIESEL, JAMES T., Ph.D. (University of Oregon)
Associate Professor of Zoology (1970-1975).

GIFFORD, GEORGE EDWIN, Ph.D. (University of Minnesota)
Professor of Immunology and Medical Microbiology, College of Medicine and Professor of Microbiology, College of Arts and Sciences (1957-1968).

GILBERT, CARTER ROWELL, Ph.D. (University of Michigan)
Associate Curator of Ichthyology, Florida State Museum and Associate Professor of Zoology (1961-1972).

GILBERT, EDWARD ETIMAR, B.A. (West. St. College of Colorado)
Assistant in Administration, IFAS (1973-1973).

GILKISON, BETTY GAY, M.S. (Indiana University)
Assistant Professor of Recreation (1974-1974).

GILL, ALICE A., M.S. (Boston University)
Assistant Professor in Occupational Therapy (1972-1972).

GLEIM, IRVIN N., Ph.D. (U. of Illinois), C.P.A. (Illinois)
Associate Professor of Accounting (1971-1975).

GLICKSBERG, MANDELL, LL.M. (New York University)
Professor of Law (1953-1959).

GLIKES, RICHARD J., M.B.A. (Shippensburg State College)
Colonel, U.S. Army, Professor of Military Science (1974-1974).

GODBEY, KAROLYN L., M.S.N. (University of Florida)
Instructor, College of Nursing (1975-1975).

GODDARD, FREDERICK OWEN, Ph.D. (Duke University)
Associate Professor of Economics (1966-1972).

GODDARD, RAY EVERETT, Ph.D. (Texas A&M University)
Professor of Forestry and Agronomy, and Geneticist, IFAS (1959-1976).

GOETHALS, WILHEMINA, B.A. (Georgia College at Milledgeville)
Visiting Teacher, P.K. Yonge Laboratory School (1976-1976).

GOFF, ROWLAND D., M.D. (University of North Carolina)
Assistant Professor of Surgery (JHEP) (1971-1971).

GOFFMAN, IRVING, J., Ph.D. (Duke University)
Professor of Economics (1959-1970).

GOING, ROBERT E., D.D.S., M.S. (University of Illinois)
Professor of Operative Dentistry, College of Dentistry (1969-1973).

GOLDBERG, EUGENE P., Ph.D. (Brown University)
Professor of Materials Science and Engineering (1975-1975).

GOLDHURST, WILLIAM, Ph.D. (Tulane University)
Professor of Humanities (1964-1976). •

GOLDMAN, JACQUELIN ROBERTA, Ph.D. (University of Illinois)
Professor of Clinical Psychology and Psychology (1961-1976).

GOLDSTEIN, MARK K., Ph.D. (Cornell University)
Assistant Professor of Clinical Psychology (1971-1971).

GONDECK, ALLAN R., Ph.D. (University of Florida)
Assistant Engineer in Coastal and Oceanographic Engineering Laboratory (1974-1974).

GONSALVES, DENNIS, Ph.D. (University of California-Davis)
Assistant Professor (Assistant Plant Pathologist), AREC—Lake Alfred (1972-1972).

GOODALE, THOMAS G., Ph.D. (Iowa State University)
Dean for Student Services and Associate Professor of Education (1973-1973).

GOODKIN, ROBERT, M.D. (Chicago Medical School)
Associate Professor of Neurosurgery (JHEP) (1976-1976).

GOODING, JAMES W., III, M.S.F. (University of Florida)
Assistant in Forest Soils and Nutrition, IFAS (1972-1972).

GORBET, DANIEL WAYNE, Ph.D. (University of Oklahoma)
Associate Professor (Associate Agronomist), IFAS, Agricultural Research Center, Marianna (1970-1975).

GORDON, ANDREW M., Ph.D. (Univ. of California at Berkeley)
Assistant Professor of English (1975-1975).

GORDON, IRA JAY, Ed.D. (Columbia University)
Graduate Research Professor of Education (1956-1971).

GORDON, MICHAEL WALLACE, J.D. (University of Connecticut)
Professor of Law (1968-1971).

GORDON, RICHARD E., M.D., Ph.D. (University of Michigan)
Associate Professor of Psychiatry and Clinical Psychology Clinical Psychology (1967-1967).

GORDON, RONALD J., Ph.D. (Princeton University)
Associate Professor of Chemical Engineering, Medicine and Surgery (1969-1974). •

GORMAN, BENJAMIN L., Ph.D. (Tulane University)
Professor of Sociology (1968-1973).

GOSLINGA, CORNELIS Ch., Ph.D. (Nijmegen University)
Professor of Humanities and History (1967-1967).

GOTTESMAN, STEPHEN T., Ph.D. (University of Manchester)
Associate Professor of Astronomy (1971-1976).

GOTTLIEB, BARRY, J., M.Ed. (University of Florida)
Teacher, P.K. Yonge Laboratory School (1974-1974).

GOULD, ROBERT WILLIAM, Ph.D. (University of Florida)
Professor of Materials Science and Engineering (1964-1974).

GOWAN, SAMUEL CHARLES, M.A.
Assistant Director of Libraries (1973-1973).

GRAEFFE, ARNOLD DIDIER, Ph.D. (Berlin)
Professor of Humanities (1948-1963).

GRAETZ, DONALD A., Ph.D. (University of Wisconsin)
Associate Professor of Soil Science (Soil Environment), IFAS (1971-1976).

GRAHAM, MARY ELIZABETH, M.A.E.
Assistant Professor of Professional Physical Education (1964-1966).

GRAINGER, DAVID A., B.D.S. (Sydney University)
D.D.S. (Northwestern University) Professor and Chairman of Operative Dentistry, College of Dentistry (1969-1974).

GRAMLING, LEA GENE, Ph.D. (University of Florida)
Professor of Pharmaceutical Chemistry (1946-1974).

GRAMS, RALPH R., M.D. (University of Minnesota)
Associate Professor of Pathology (1973-1973).

GRANT, JOHN H., Ph.D. (NYU)
Assistant Professor of Computer and Information Sciences, College of Engineering (1971-1974).

GRATER, HARRY ALLEN, Ph.D. (Penn State University)
Acting Dean of University College, Professor of Behavioral Studies (1965-1965).

GRAVES, SAMUEL RAY, B.A.
Director of Athletics (1960-1969).

GRAVES, SHIRLEY A., M.D. (University of Miami)
Associate Professor of Anesthesiology and Pediatrics and Chief, Division of Pediatric Anesthesiology (1970-1973).

GRAY, JOHN LEWIS, D.F. (Duke University)
Professor, Chairperson of Forestry Department, and Director of School of Forest Resources and Conservation, IFAS (1963-1970).

GRAY, ROLAND W., M.D. (University of Tennessee)
Assistant Professor of Pediatrics (1976-1976).

GRAY, SUSAN D., B.S.A. (University of Florida)
Assistant in Vegetable Crops, IFAS (1975-1975).

GREANY, PATRICK DENNIS, Ph.D. (University of California, Riverside)
Assistant Professor (Assistant Entomologist), USDA, IFAS, (1973-1973).

GREEN, ALEX EDWARD SAMUEL, Ph.D. (University of Cincinnati)
Graduate Research Professor of Physics; Nuclear Engineering Sciences and Electrical Engineering (1963-1963).

GREEN, JAMES RUSSELL, JR., M.D. (University of Virginia)
Professor of Community Health and Family Medicine and Medicine (1959-1974).

GREEN, RICHARD HAMILTON, Ph.D. (University of California)
Professor of English (1971-1971).

GREEN, RICHARD LOUIS, Ph.D. (University of Illinois)
Associate Professor of Theatre (1967-1972).

GREEN, VICTOR EUGENE, JR., Ph.D. (Purdue University)
Professor (Agronomist), IFAS (1951-1965).

GREENAWALT, THOMAS CHARLES, Ed.D. (Louisiana State Univ.)
Associate Professor (Extension 4H-Youth Specialist), IFAS, (1962-1966).

GREENE, CALVIN CLAY, M.S.M.E.
Director of Physical Plant (1950-1950).

GREENHALGH, RICHARD ARLEN, Ph.D. (University of Missouri)
Assistant Professor (Assistant Agricultural Economist), FRED, IFAS, USDA (1974-1974).

GREENWOOD, GORDON E., Ed.D. (University of Indiana)
Professor of Education (1967-1976).

GREER, MELVIN, M.D. (New York University)
Professor and Chairperson, Department of Neurology (1961-1974).

GREGG, JAMES HENDERSON, Ph.D. (Princeton University)
Professor, Microbiology and Cell Science, Arts and Sciences (1951-1963). •

GREGORY, JOHN W., Ph.D. (Ohio State University)
Assistant Professor of Education (1972-1972).

GRIERSON, WILLIAM, Ph.D. (Cornell University)
Professor (Horticulturist) IFAS, AREC—Lake Alfred (1952-1965). •

GRIFFIN, DANA, III, Ph.D. (University of Tennessee)
Associate Professor of Botany, Arts and Sciences (1967-1972).

GRIFFIN, GEORGE MELVIN, Ph.D. (Rice University)
Professor of Geology (1970-1970).

GRIFFIN, NANCY CLAIRE, M.S.
Instructor, P.K. Yonge Laboratory School (1967-1972).

GRIFFIN, ROBERT CUSHMAN, M.A.
Coordinator, Department of Extended Services, Division of Continuing Education (1975-1975).

GRIFFIS, CAROLYN STALLINGS, Ph.D. (University of Florida)
Assistant Professor of Social Sciences, Director of Cooperative Educaton (1965-1969).

GRIFFITH, ANTHONY C., M.A.
Associate Athletic Trainer (1973-1973)

GRIFFITH, JOHN L., Ed.D. (Oklahoma State University)
Professor of Journalism and Communications and Chairperson, Department of Journalism (1969-1975).

GRIGGS, HARRY H., Ph.D. (University of Iowa)
Professor of Journalism and Communications (1958-1970).

GRIGGS, RICHARD A., Ph.D. (Indiana University)
Assistant Professor of Psychology (1974-1974).

GRIGSBY, GRETCHEN E., B.A. (Ohio State)
Interim Teacher, P.K. Yonge (1975-1975).

GRIGSBY, JOHN R., Ed.D. (Columbia University)
Associate Professor of Music (1967-1973).

GRIM, CHARLES J., M.S.B.C.
Assistant Professor of Building Construction (1967-1970).

GRIMES, PAULETTE, M.A.
Assistant Dean for Student Services (1976-1976).

GRISSELL, EDWARD ERIC, Ph.D. (University of California)
Assistant Professor (Assistant Entomologist), IFAS, DPI (1973-1973).

GRISSOM, EUGENE EDWARD, M.F.A.
Professor of Art and Chairperson of Department of Art (1953-1966).

GRONWALL, RONALD R., D.V.M., Ph.D. (Univ. of Calif. at Davis)
Associate Professor, College of Veterinary Medicine (1975-1975).

GROOMS, CAROLE H., M.L.S. (Florida State University)
Assistant Law Librarian (1974-1974).

GROOMS, DONALD A., M.A.
Associate Professor of Journalism and Communications, News Director WUFT (1962-1970).

GROSETH, ROLF A., M.A.
Coordinator and Advisor, Student Government (1973-1973).

GRUBAR, RICHARD A., B.S.
Assistant Basketball Coach (1973-1973).

GUDAT, JOHN C., Ph.D. (Cornell University)
Assistant Professor of Pathology (1973-1973).

GUERTIN, WILSON H., Ph.D. (Michigan State University)
Professor of Education (1960-1968). *

GUINAGH, BARRY JOSEPH, Ph.D. (Michigan State University)
Associate Professor of Education (1968-1974).

GULL, DWAIN, D., Ph.D. (Cornell University)
Associate Professor (Horticulturist), IFAS (1958-1973).

GUNBY, WILLIAM R., JR., M.B.A.
Associate Professor of Building Construction (1973-1973).

GUNTER, DANNY, L., Ph.D. (University of Tennessee)
Assistant Professor (Extension Production Economist) IFAS (1975-1975).

GURIN, SAMUEL, Ph.D. (Columbia University)
Professor of Biochemistry and Molecular Biology (1969-1973).

GUTFELD, ARNON, Ph.D. (University of California, Los Angeles)
Visiting Adjunct Professor of History (1976-1976).

GUTTINGER, HELLEN IRELAND, Ed.D.
Assistant Professor, P. K. Yonge Laboratory School (1968-1974).

GUY, ALBERT GLASGOW, Ph.D. (Carnegie Institute of Tech.)
Professor of Materials Science and Engineering (1960-1960). *

GUZMAN, VICTOR L. Ph.D. (Cornell University)
Professor (Horticulturist), IFAS, Agricultural Research and Education Center, Belle Glade.

HABAL, MUTAZ B., M.D. (American University of Beirut)
Associate Professor of Surgery and Chief of Plastic and Reconstructive Surgery, VAH (1974-1975).

HABECK, DALE HERBERT, Ph.D. (North Carolina State Univ.)
Professor (Entomologist), IFAS (1963-1967).

HACKETT, RAYMOND, L., M.D. (University of Vermont)
Professor of Pathology and Chief of Laboratory Services, VAH (1962-1972).

HACLKER, RUTH NADINE, M.S. (Oklahoma State University)
Associate Professor (Extension Clothing Specialist), IFAS, (1969-1969).

HADDOCK, KENNETH C., Ph.D. (Michigan State University)
Assistant Professor of Social Sciences and Geography (1973-1973).

HADLEY, RUFUS TILMON, B.S.B.A. (Univ. of North Carolina)
Director, Administrative Computing Services (1954-1969).

HAGAN, WAYNE V., M.D. (University of Miami)
Instructor of Surgery (JHEP) (1976-1976).

HAGSTRUM, DAVID WILLIAM, Ph.D. (University of California)
Assistant Professor (Assistant Entomologist), USDA, IFAS, (1973-1973).

HAHN, WILLIAM, M.A.
Director of Apartment Housing and Assistant to the Director, Division of Housing (1967-1976).

HAINES, LEWIS FRANCIS, Ph.D. (University of Michigan)
Professor of Humanities and Behavioral Studies (1941-1946).

HALE, JAMES ALLEN, Ph.D. (University of Wisconsin)
Visiting Associate Professor (1975-1975).

HALE, JAMES PIERCE, M.S.
Professor of Music (1957-1970).

HALE, MARK PENDLETON, JR., Ph.D. (University of Illinois)
Associate Professor of Mathematics (1970-1976).

HALLER, WILLIAM T., Ph.D. (University of Florida)
Assistant Professor (Assistant Agronomist), IFAS (1974-1974).

HALL, C. B., Ph.D. (Cornell University)
Professor (Horticulturist), IFAS (1950-1964).

HALL, DONALD W., Ph.D. (University of Florida)
Assistant Professor (Assistant Entomologist), IFAS (1975-1975).

HALL, EVERETT E., JR., Ph.D. (University of Florida)
Assistant Professor of Psychology (1962-1970).

HALL, LINDA THORNTON, M.A.
Assistant Professor of Recreation (1969-1969).

HALL, ROBERTA HALCOMB, M.S. (University of Alabama)
Associate Professor (Extension Home Furnishings Specialist), IFAS, (1959-1969).

HALLER, WILLIAM THURSTON, Ph.D. (University of Florida)
Assistant Professor, (Assistant Agronomist), IFAS (1974-1974).

HALLMAN, CLEMENS L., Ph.D. (Indiana University)
Associate Professor of Education (1973-1973).

HALPERIN, DON A., Ph.D. (Virginia Polytechnic Institute)
Professor of Building Construction and Director of the School of Building Construction (1953-1973).

HALSEY, LAWRENCE HENNRY, M.A. (University of Florida)
Associate Professor (Horticulturist), IFAS (1948-1968).

HAMACHER, HOWARD BROCKMAN, M. Arch.
Professor of Architecture (1956-1976).

HAMLEN, RONALD ALAN, Ph.D. (Pennsylvania State University)
Assistant Professor (Assistant Entomologist), IFAS, Agricultural Research Center, Apopka (1973-1973).

HAMMACK, JOSEPH LEONARD, JR., Ph.D. (California Institute of Technology)
Assistant Professor of Engineering Sciences (1976-1976).

HAMMELL, DAVID LEE, Ph.D. (University of Kentucky)
Assistant Professor (Assistant Animal Nutritionist), IFAS, Agricultural Research Center, Live Oak (1973-1973).

HAMMER, LOWELL CLARK, Ph.D. (University of Florida)
Professor of Communicative Disorders and Speech; Associate Dean, College of Health Related Professions (1960-1975).

HAMMER, MARIE SPEYRER, M.H.Ec.Ed. (University of Arizona)
Associate Professor (Extension Home Economist-ENP), IFAS (1969-1975).

HAMMER, RICHARD HARTMAN, Ph.D. (University of Arizona)
Professor and Chairman, Department of Pharmaceutical Chemistry (1963-1971).

HAMMOND, EUGENE ASHBY, Ph.D. (University of North Carolina)
Professor of History and Social Sciences (1942-1955). *

HAMMOND, LUTHER CARLISLE, Ph.D. (Iowa State University)
Professor of Soil Science (Soil Physics), IFAS (1950-1964).

HANCOCK, DONALD E., M.B.A. (University of Kentucky)
Director of Referral Center and Admissions, Shands Teaching Hospital (1976-1976).

HANES, MICHAEL LINN, Ph.D. (Indiana University)
Assistant Professor of Education (1973-1973).

HANKS, ROBERT WILLIAM, Ph.D. (University of Chicago)
Associate Professor (Associate Plant Physiologist), IFAS, Agricultural Research and Education Center, Lake Alfred (1955-1974).

HANNAH, LARKIN CURTIS, Ph.D. (University of Wisconsin)
Assistant Professor (Horticulturist), IFAS (1974-1974).

HANNUM, JOHN BALLARD, M.Ed.
Instructor, P. K. Yonge, Laboratory School (1958-1962).

HANRAHAN, ROBERT JOSEPH, Ph.D. (University of Wisconsin)
Professor of Chemistry (1958-1971).

HANSEN, ART, M.A. (Cornell University)
Interim Assistant Professor of Behavioral Studies (1975-1975).

HANSEN, KIM A., M.B.A. (University of Florida)
Associate in Information Systems (1974-1974).

HANSON, HAROLD PALMER, Ph.D. (University of Wisconsin)
Executive Vice President and Professor of Physics (1948-1974).

HARBAUGH, BRENT KALEN, Ph.D. (Kansas State University)
Assistant Professor (Assistant Horticulturist), IFAS, Agricultural Research and Education Center, Bradenton (1975-1975).

HARDER, JAYNE CRANE, Ph.D. (University of Florida)
Professor of Linguistics and Director of the English Language Institute (1954-1974). *

HARDMAN-DE-BAUTISTA, M.J., Ph.D. (Stanford University)
Professor of Anthropology and Linguistics (1968-1972).

HARDY, JOHN T., M.A. University of Florida)
Major, U.S. Army, Assistant Professor of Military Science (1976-1976).

HARDY, JOHN WILLIAM, Ph.D (University of Kansas)
Curator of Ornithology and Chairman of Natural Sciences, Florida State Museum and Professor of Zoology (1973-1973).

HARGROVE, DON DARRELL, Ph.D. (University of Florida)
Assistant Professor (Department of Animal Science), IFAS (1973-1975).

HARIHARAN, P. V., Ph.D. (University of Toronto)
Assistant Professor of Biochemistry and Molecular Biology (1971-1974).

HARING, ELLEN S., Ph.D. (Radcliffe College)
Professor of Philosophy and Chairperson of Department (1972-1972).

HARLAN, WILLIAM EDWARD, M.A.E.
Assistant Professor of Physical Education (1949-1954).

HARMAN, ELOISE M., M.D. (Johns Hopkins University)
Assistant Professor of Medicine (1976-1976).

HARMS, ROBERT HENRY, Ph.D. (Texas A&M University)
Professor (Poultry Nutritionist) and Chairperson, Poultry Science Department, IFAS (1957-1963).

HARPER, JULIA M., M.Ed.
Instructor, P.K. Yonge Laboratory School (1966-1970).

HARRELL, SIDNEY L., M.S. (Old Dominion University)
Assistant in Engineering of Coastal and Oceanographic Engineering Laboratory (1974-1974).

HARRER, GUSTAVE ADOLPHUS, Ph.D. (University of North
Director of Libraries (1968-1968).

HARRIS, BARNEY, JR., Ph.D. (Oklahoma State University)
Professor (Extension Dairyman), IFAS (1963-1974).

HARRIS, C.E., J.D. (University of Harvard)
Assistant Professor (1975-1975).

HARRIS, FAYE G., Ed.D. (University of Florida)
Associate Professor, College of Nursing (1975-1975).

HARRIS, JAMES O., M.D. (University of Mississippi)
Associate Professor of Medicine, VAH (1972-1976).

HARRIS, LAWRENCE DEAN, Ph.D. (Michigan State University)
Assistant Professor (Wildlife Ecologist), IFAS (1972-1972).

HARRIS, MICHAEL R., M.B.A., C.P.A. (Univ. of Florida)
Associate University Controller (1971-1974).

HARRISON, DALTON SIDNEY, M.S.A.
Professor (Agricultural Engineer) IFAS, (1953-1968).

HARRISON, MARY NALL, M.S. (Texas A&M University)
Associate Professor (Extension Consumer Education Specialist), IFAS, (1963-1967).

HARRISON, WILLARD LAURITZ, M.S.P. (University of Florida)
Director of Hospital Pharmacy (Shands) and Associate in Pharmacy (1976-1976).

HART, JACQUELYN D., Ed.S. (University of Florida)
Affirmative Action Officer (1974-1975).

HARTIGAN, BARRY, M.A. in L.S.
Assistant Librarian, Engineering and Physical Sciences (1973-1973).

HARTIGAN, KARELISA V., Ph.D. (University of Chicago)
Associate Professor of Classics and Humanities (1973-1976).

HARTLEY, CRAIG SHERIDAN, Ph.D. (Ohio State University)
Professor of Materials Science and Engineering (1966-1975). *

HARVEY, JOHN W., D.V.M. (Kansas St. U) Ph.D. (U Cal-Davis)
Assistant Professor of Clinical Pathology, College of Veterinary Medicine (1974-1974).

HARVEY, WILLIAM B., A.B.
Director, University Press (1967-1967).

HASELTINE, CHARLES E., B. Arch., A.I.A.
University Physical Planning Consultant, Facilities Planning and Operations, J. Hillis Miller Health Center (1976-1976).

HASS, CHARLES GLEN, Ed.D. (Columbia University)
Professor of Education (1958-1958).

HASS, JANE, Ph.D. (University of South Carolina)
Assistant Professor of Management (1975-1975).

HASSELBACK, JAMES R., Ph.D. (Michigan State University)
Assistant Professor of Accounting (1974-1974). *

HATFIELD, KENNETH, B.S., B.A.
Assistant Coach (1971-1971)

HATTON, THURMAN TIMBROOK, JR., Ph.D. (Washington State University)
Adjunct Professor (Horticulturist), USDA, IFAS (1972-1972).

HAULMAN, STEPHEN R., M.Ed.
Director of Residence Life, Student Housing (1968-1973).

HAUPT, CHARLES S., B.S.P.
Continuing Education Coordinator, College of Pharmacy (1950-1974).

HAUSWIRTH, WILLIAM W., Ph.D. (Johns Hopkins University)
Assistant Professor of Immunology and Medical Microbiology (1976-1976).

HAWKINS, IRVIN F., M.D. (University of Maryland)
Professor of Radiology and Chief of Visceral Angiography (1973-1976).

HAWKINS, ROBERT A., M.A.
Teacher, P.K. Yonge Laboratory School (1969-1970).

HAWKINSON, LANCE JON, M. Arch.
Assistant Professor of Architecture (1970-1973).

HAYES, CAROL VIRGINIA, M.Ed. (University of Florida)
Assistant Professor, College of Nursing (1957-1964). *

HAYGOOD, NANCY A., B.S.B.A. (University of Arizona)
Research Associate, Finance and Accounting (1950-1976).

HAYNES, RICHARD PIERCE, Ph.D. (University of Illinois)
Associate Professor of Philosophy (1967-1967).

HAYS, CLIFFORD OLIVER, Ph.D. (University of Texas)
Associate Professor of Civil Engineerng (1971-1976).

HAYSLIP, NORMAN CALVIN, B.S.A. (University of Florida)
Professor (Entomologist), and Center Director, Agricultural Research Center, Ft. Pierce, IFAS (1943-1956). *

HEAD, HENRY HERBERT, Ph.D. (University of Maryland)
Associate Professor (Animal Physiologist), IFAS (1963-1971).

HEADLEY, ELWOOD J., M.D. (Vanderbilt University)
Assistant Professor of Medicine, VAH (1976-1976).

HEANEY, JAMES PATRICK, Ph.D. (Northwestern University)
Associate Professor of Environmental Engineering Sciences (1968-1972).

HEARN, DONALD WILLIAMS, Ph.D. (Johns Hopkins University)
Associate Professor of Industrial and Systems Engineering (1971-1976).

HEARON, PAMELA KUNSMAN, B.S.
(Assistant Librarian) Assistant Professor, IFAS, Agricultural Research and Education Center, Lake Alfred, (1966-1967).

HEATON, MARIETA B., Ph.D. (North Carolina State University)
Assistant Professor of Neuroscience (1975-1975).

HEDDEN, SCOTT L., M.S.
Adj. Associate Professor (Associate Agricultural Engineer), IFAS, USDA, AREC-Lake Alfred (1963-1968). Alfred (1963-1968)

HEDDINGER, CATHERINE A., M.A.
Residence Life Coordinator, Student Housing (1975-1975).

HEDGES, WILLIAM DEPEW, Ed.D. (George Peabody College for Teachers)
Professor of Education (1971-1971).

HEGGESTAD, ARNOLD, (Michigan State)
Associate Professor of Economics (1974-1976). *

HEILMAN, KENNETH M., M.D. (University of Virginia)
Professor of Neurology, Director of Neurology Research Progam, and Associate Professor of Psychology (1970-1975).

HEINS, PAUL J., D.D.S., M.S.D. (University of Washington)
Associate Professor and Chairman of Periodontics, College of Dentistry (1975-1975).

HELLING, JOHN FREDERICK, Ph.D. (Ohio State University)
Associate Professor of Physical Sciences and Chemistry (1962-1972).

HELLSTROM, WARD, Ph.D. (University of Illinois)
Professor of English and Chairperson of the Department (1961-1972).

HELTON, CHARLES KIM, B.A.
Assistant Football Coach (1973).

HEMP, GENE WILLARD, Ph.D. (University of Minnesota)
Associate Vice President for Academic Affairs and Professor of Engineering Sciences (1967-1976).

HENCH, LARRY LEROY, Ph.D. (Ohio State University)
Professor of Materials Science and Engineering (1964-1972).

HENDERSON, CHARLES ALFRED, Ed.D. (University of Florida)
Associate Professor of Education (1964-1974).

HENDERSON, DOLORES CHRISTINA, M.S.
Assistant Librarian, Reference and Bibliography (1973-1976).

HENDERSON, GRACE G., Ph.D. (Michigan State University)
Assistant Professor of Sociology (1973-1973).

HENDERSON, LINDA L., Ed.S. (Univ. of Florida)
Teacher, P.K. Yonge (1974-1975).

HENDERSON, RONALD D., Ph.D. (Michigan State University)
Assistant Professor of Sociology (1973-1973).

HENDERSON, RUBY MARIE, M.S.
Associate Professor of Music (1963-1974).

HENLEY, RICHARD WILLIAM, Ph.D. (Ohio State University)
Associate Professor (Ornamental Horticulturist) Ornamental Horticulture Department Agriculture Research Center-Apopka (1973-1973).

HENNESSEY, JAMES T., M.A.
Director of Student Housing (1963-1971). *

HENNY, RICHARD JAY, Ph.D. (University of Minnesota)
Assistant Professor (Geneticist, Foliage Plant Breeder), IFAS, Agricultural Research Center, Apopka (1976-1976).

HENRETTA, JOHN C., Ph.D. (Harvard University)
Assistant Professor of Sociology (1974-1976).

HENRY, FREDERICK EARL, B.I.E. (Georgia Institute of Technology)
Assistant Professor (Assistant Industrial Engineer), USDA, IFAS (1966-1966).

HENRY, GEORGE SELDEN, Ph.D. (Yale University)
Assistant Professor of History (1961-1967).

HENRY, RICHARD A., M.D. (Johns Hopkins Medical School)
Professor of Community Health and Family Medicine and Director of Family Practice Residency Program (1970-1975).

HENSEL, DALE ROBERT, Ph.D. (Rutgers University)
Professor (Soils Chemist) and Center Director, IFAS, Agricultural Research Center, Hastings, (1960-1970).

HENSEL, JAMES W., Ph.D. (Iowa State University)
Professor of Education (1969-1975).

HENTGES, JAMES FRANKLIN, JR., Ph.D. (University of Wisconsin)
Professor (Animal Nutritionist) IFAS (1952-1966)

HERBERT, JOHN HENRY, M.S.A.
Associate Professor of Soil Science (Extension Conservation), IFAS (1954-1968).

HERBERT, THOMAS WALTER, Ph.D. (Princeton University)
Professor of English (1946-1951).

HERON, W. DAVID, B.S.B.A. C.P.A. (Univ. of Florida)
Assistant Director of Finance and Accounting (1973-1974).

HESS, NANCY ROSE, Ph.D. (University of Wisconsin)
Associate Professor of Marketing (1963-1966).

HESTER, JOHN DONALD, M.P.H.
Associate Professor of Recreation (1957-1976).

HETRICK, LAWRENCE ANDREW III, M.A. (University of Washington)
Assistant Professor of English (1966-1968).

HETRICK, VIRGINIA R., Ph.D. (University of Washington)
Assistant Professor of Geography (1973-1973).

HICKS, DORA ADELINE, Ed.D. (University of Texas)
Professor of Health Education (1948-1955).

HIEBERT, ERNEST, Ph.D. (Purdue University)
Associate Professor (Associate Plant Pathologist), IFAS, (1969-1974).

HIERS, RICHARD HYDE, Ph.D. (Yale University)
Professor of Religion (1961-1972).

HILDEBRANDT, WILLIAM KENNETH, B.S.P.
Assistant in Pharmacy (1976-1976).

HILL, CLEMENT J., D.M.D. (Univ. of Louisville)
Associate Professor of Pediatric Dentistry, College of Dentistry (1975-1975).

HILL, DAVID THOMAS, Ph.D. (Clemson University)
Assistant Professor (Assistant Agricultural Engineer), IFAS (1975-1975).

HILL, ELMER C., B.S.A.
Adjunct Associate Professor (Associate Bacteriologist) IFAS, DC, AREC—Lake Alfred (1951-1963).

HILL, HUGH M., M.D. (Johns Hopkins University)
Professor of Obstetrics and Gynecology and Associate Dean for Student Admissions (1959-1973).

HILL, JERALDINE A., M.Ed.
Instructor, P.K. Yonge, Laboratory School (1959-1964).

HILL, MILDRED B., Ph.D. (University of Illinois)
Associate Professor of English (1974-1974).

HILL, SAMUEL SMYTHE, JR., Ph.D. (Duke University)
Professor of Religion and Chairperson of Department (1972-1972)

HILLIARD, FRANCES PAULINE, Ed.D. (Columbia University)
Professor of Education (1950-1960). *

HILLIARD, MARY ELIZABETH, Ph.D. (University of Florida)
Professor, College of Nursing (1973-1976).

HILLING, HELEN CLARK, Ph.D. (New York University)
Professor of Community Health and Family Medicine (1974-1974).

HILTON, MAYNARD B., Jr., M.B.A. (Inter American University)
Captain, U.S. Air Force, Assistant Professor of Aerospace Studies (1975-1975).

HIMES, JAMES ALBERT, V.M.D. (University of Pennsylvania) Ph.D. (Cornell University)
Professor (Pharmacologist), and Director of Veterinary Medical Education, College of Veterinary Medicine-IFAS (1965-1976).

HINES, JEANETTE MICHI, B.A. (University of Florida)
Visiting Teacher, P.K. Yonge Laboratory School (1975-1975).

HINES, VYNCE ALBERT, Ed.D. (University of Illinois)
Professor of Education (1947-1972).

HINKLEY, HENRY R.
Coordinator, Health Center Projects, Facilities Planning and Operations, J. Hillis Miller Health Center (1976-1976).

HINSON, KUELL, Ph.D. (University of Wisconsin)
Professor of Agronomy (Geneticist, USDA), IFAS (1955-1971).

HIPPLE THEODORE W., Ph.D. (University of Illinois)
Professor of Education (1968-1973).

HIRTH, DAVID HAMMOND, Ph.D. (University of Michigan)
Assistant Professor, Wildlife Ecology, IFAS (1973-1973).

HIXSON, IMOGENE, B.S. in L.S.
Librarian and Chairman of Catalog Department (1949-1970).

HODGES, ELVER MYRON, Ph.D. (Rutgers University)
Professor (Agronomist), IFAS, Agricultural Research Center, ONA (1941-1949). *

HODGES, JAMES R., Ph.D. (University of North Carolina)
Professor of Humanities and English (1950-1971).

HODGES, JULIUS BARNEY, Ed.D. (New York University)
Professor of Education and Director, P.K. Yonge Laboratory School (1962-1962).

HODGES, PAUL C., Ph.D. (University of Wisconsin)
Visiting Professor of Radiology (1964-1974).

HODGSON, THOM JOEL, Ph.D. (University of Michigan)
Associate Professor of Industrial and Systems Engineering (1970-1974).

HOFFMAN, GLENN JOHN, Ph.D. (University of Michigan)
Associate Professor of Social Sciences and History (1957-1963).

HOFFMANN, Edward M., Ph.D. (University of Miami)
Associate Professor, Microbiology, Arts and Sciences; Associate Professor, Immunology and Medical Microbiology, College of Medicine, Associate Microbiologist, IFAS (1968-1972).

HOGEN, ESCH, THIEO ELTIO, Ph.D. (Leiden)
Associate Professor of Chemistry (1970-1975).

HOLBROOK, HOLLIS HOWARD, B.F.A.
Professor of Art (1938-1948).

HOLBROOK, RAYMOND L., Ed.S.
Residence Life Coordinator, Student Housing (1972-1973).

HOLDEN, EDMUND STANLEY, Ph.D. (Northwestern University)
Associate Professor of English (1957-1966).

HOLLAND, DONALD R., M.S.
Assistant Professor of Journalism and Communications (1970-1970).

HOLLAND, HAROLD FERRELL, M.S.C.E.
Associate Professor of Building Construction (1968-1973).

HOLLIEN, HARRY, Ph.D. (University of Iowa)
Professor of Speech (1962-1968).

HOLLINGER, THOMAS G., Ph.D. (Purdue University)
Assistant Professor of Anatomy (1976-1976).

HOLLIS, CHARLES A., III, Ph.D. (State Univ. of New York College of Forestry)
Assistant Professor (Assistant Forest Physiologist), IFAS (1972-1974).

HOLMES, THELMA MARY, M.P.H. (University of North Carolina)
Associate Professor of Physical Therapy (1965-1969).

HOLSTRUM, GARY L., Ph.D. (University of Iowa), C.P.A. (Texas)
Associate Professor of Accounting (1974-1974).

HOLT, JOHN, Ph.D. (Texas A&M University)
Associate Professor, Food and Resource Economics Department, IFAS, (1962-1974).

HOLYOAK, OWEN JOSEPH, Ph.D. (University of Iowa)
Professor of Professional Physical Education (1966-1976).

HOMAN, SIDNEY RAMSDEN, Ph.D. (Harvard University)
Associate Professor of English (1972-1972).

HOOD, C. IAN, M.B., Ch.B. (Liverpool University)
Professor of Pathology (1956-1973).

HOOKS, E. JAMES, Ph.D. (University of Missouri)
Assistant Professor and Chairperson of Theatre (1973-1976).

HOOPER, CHARLES FREDERICK, JR., Ph.D. (Johns Hopkins Univ.)
Professor of Physics (1963-1976).

HOOPER, LEONARD J., Ph.D. (Southern Illinois University)
Associate Professor of Journalism and Communications (1964-1967).

HOOVER, JOHN WESLEY, M.S.A.E. (Georgia Institute of Technology)
Professor of Aerospace Engineering (1951-1967).

HOPKINS, DONALD LEE, Ph.D. (University of Kentucky)
Associate Professor (Associate Plant Pathologist), IFAS, Agricultural Research Center, Leesburg (1969-1974).

HORNBERGER, ROBERT H., Ph.D. (University of Iowa)
Assistant Professor of Clinical Psychology (1969-1969).

HORNER, EARL STEWART, Ph.D. (Cornell University)
Professor of Agronomy, IFAS (1950-1964).

HORNSBY, JANICE MARIE, M.Ed. (University of Houston)
Visiting Instructor of Medical Technology (1975-1975).

HOROWITZ, ANN P., Ph.D. (Indiana University)
Associate Professor of Economics (1972-1972).

HOROWITZ, IRA, Ph.D. (Massachusetts Institute of Technology)
Professor of Management; Chairperson, Department of Management (1972-1972).

HOROWITZ, MARSHALL, M.D. (University of Basel, Switzerland)
Instructor of Orthopaedic Surgery (JHEP) (1974-1974).

HORTENSTINE, CHARLES C., Ph.D. (University of Florida)
Professor of Soil Science (Soil Chemistry), IFAS (1959-1975). *

HORTON, STEVEN W.B.S. (USNA)
Assistant Professor of Naval Science (1976-1976).

HOSKINS, WILBUR JOLIFFE, M.S. (Univ. of West Virginia)
Instructor, P. K. Yonge Laboratory School (1958-1962).

HOUGH, JOSEPH P., B.S.B.A. (Florida State University)
University Controller (1962-1970).

HOUSE, MICHAEL LAMAR, B.S.P. (University of Florida)
Pharmacy (1975-1975).

HOWARD, CHARLES MARION, Ph.D. (Cornell University)
Associate Professor (Associate Plant Pathologist), IFAS, Agricultural Research Center, Dover (1967-1973).

HOWARD, FORREST WILLIAM, Ph.D. (Louisiana State University)
Assistant Professor (Assistant Entomologist), IFAS Agricultural Research Center, Ft. Lauderdale (1976-1976).

HOWARD, WILLIAM M., Ph.D. (University of Wisconsin)
Professor of Insurance (1955-1957).

HOWER, ALFRED, Ph.D. (Harvard University)
Professor of Portuguese and Spanish (1962-1962).

HREN, JOHN JOSEPH, Ph.D. (Stanford University)
Professor of Materials Science and Engineering (1964-1972).

HSIEH, CHUNG KUO, Ph.D. (Purdue University)
Associate Professor of Mechanical Engineering (1969-1973).

HUBBELL, DAVID HEUSTON, Ph.D. (North Carolina State University)
Associate Professor of Soil Science (Soil Microbiology), IFAS (1969-1973).

HUBER, JOSEPH RICHARD, M.Ed.
Instructor, P. K. Yonge Laboratory School (1958-1962).

HUBER, WAYNE CHARLES, Ph.D. (MIT)
Associate Professor of Environmental Engineering Sciences (1968-1973).

HUDSON, DAVID M., LL.M. (University of Florida)
Visiting Assistant Professor (1976-1976).

HUDSON, JERE H., M.S.I.A.* (George Washington University)
Assistant Dean and Lecturer, College of Law (1972-1972).

HUDSON, TERRY M., M.D. (Duke University)
Assistant Professor of Orthopaedic Radiology (1976-1976).

HUETTEL, MILTON DAVIS, Ph.D. (University of Texas)
Assistant Professor (Assistant Etomologist), USDA, IFAS, (1973-1973).

HUFFMAN, JACOB BRAINARD, D.F. (Duke University)
Associate Professor (Wood Technologist), IFAS, (1952-1957).

HUGGART, RICHARD L., B.S.
Adjunct Associate Professor (Associate Chemist), IFAS, DC, AREC-Lake Alfred (1951-1961).

HUGHES, KENNETH BURDETTE, S.J.D. (Harvard University)
Professor of Law (1968-1968).

HUGHES, THOMAS W., B.A. (Penn. State University)
Director, Veterinary Hospital, College of Veterinary Medicine (1973-1976).

HUMMEL, ROLF ERICH, D.Sc. (Stuttgart, Germany)
Professor of Materials Science and Engineering (1964-1974).

HUMPHREY, STEPHEN R., Ph.D. (Oklahoma State University)
Associate Curator of Mammalogy, Florida State Museum and Associate Professor of Zoology (1971-1976).

HUMPHREYS, THOMAS ELDER, Ph.D. (University of Pennsylvania)
Professor of Botany (Biochemist), IFAS (1965-1968).

HUNT, E. L. ROY, LL.M. (Yale)
Professor of Law and Associate Dean (1962-1971).

HUNTER, ELIZABETH F., M.S. (University of Southern California)
Instructor in S.S.T.E. (1973-1973).

HURST, THOMAS ROBERT, J.D. (Harvard University)
Assistant Professor of Law (1974-1974). *

HUSEMAN, HOWARD WILLIAM, M.S. in L.S.
Associate Librarian, Executive Assistant to Director (1962-1972).

HUTCHINSON, EDWARD CHARLES, Ph.D. (Ohio State University)
Associate Professor of Speech and Communicative Disorders (1967-1967).

HUTTO, JACK H., M.D. (University of Alabama)
Assistant Professor of Pediatrics (1976-1976).

HVIZDALA, EVA, M.D. (Charles University, Prague)
Assistant Professor of Pediatrics (1975-1975).

HYATT, DORIS, Y., B.S.
Assistant Librarian, Reference and Bibliography (1967-1967).

HYDE, DALLAS M., Ph.D. (University of California at Davis)
Assistant Professor, College of Veterinary Medicine (1976-1976).

HYDE, GERALD E., B.S. (University of Tennessee)
Systems Coordinator (1974-1975).

IBARRA, FERNANDO, Ph.D. (UCLA)
Associate Professor of Spanish (1967-1972).

IHAS, GARY G., Ph.D. (University of Michigan)
Assistant Professor of Physics (1976-1976).

INGBER, STANLEY N., J.D. (Yale University)
Associate Professor of Law (1972-1976).

INGLEY, HERBERT ARTHUR, III, Ph.D. (University of Florida)
Assistant Professor of Mechanical Engineering (1973-1975).

INGMAN, HAL MAURY, M.S.M.E. (Georgia Tech.)
Assistant Professor of Mechanical Engineering (1961-1961).

INGRAM, LONNIE O'NEAL, Ph.D. (University of Texas)
Associate Professor, Microbiology and Cell Science, Arts and Sciences; Associate Professor, Immunology and Medical Microbiology, College of Medicine, Associate Microbiologist IFAS (1972-1976).

IREY, RICHARD KENNETH, Ph.D. (Purdue University)
Professor of Mechanical Engineering (1964-1969).

IRVING, JO ANNALEE, M.S. (University of Maryland)
Assistant Professor, College of Nursing (1970-1971).

ISAACSON, MARCIA JEAN, M.F.A.
Assistant Professor of Art (1973-1975).

ISAACSON, ROBERT L. Ph.D. (University of Michigan)
Professor of Psychology and Neuroscience (1968-1968).

ISENBERG, SHELDON R., Ph.D. (Harvard)
Associate Professor of Humanities and Religion (1973-1976).

ISLER, RALPH CHARLES, Ph.D. (Johns Hopkins University)
Professor of Physics (1966-1976).

ISMAIL, MOHAMMED ABDEL-REHIM, Ph.D. (University of Florida)
Adjunct Assistant Professor (Assistant Horticulturist) IFAS, DC, AREC—Lake Alfred (1966-1968).

IWATA, TAKESHI, M.D. (Kyoto University)
Assistant Research Scientist of Ophthalmology (1976-1976).

JABERG, RUSSELL LOWELL, S.T.D. (Temple University)
Associate Professor of Humanities (1968-1973).

JACKSON, ERIC, Ph.D. (University of Pittsburgh)
Assistant Professor of Basic Dental Sciences, College of Dentistry (1972-1972).

JACKSON, LARRY KEITH, Ph.D. (University of Florida)
Assistant Professor of Fruit Crops (Assistant Extension Citriculturist), IFAS (1963-1972).

JACKSON, RICHARD A., M.A. (University of Florida)
Teacher, P.K. Yonge Laboratory School (1972-1972).

JACKSON, RONALD FREDERICK, D.V.M. (Michigan State Univ.)
Clinical Professor of Veterinary Medicine (1971-1974).

JACKSON, WILLIAM FRANKLIN, D.V.M., M.S. (Michigan State University)
Clinical Professor of Veterinary Medicine (1971-1974).

JACOBS, ARTHUR J., Ed.D. (Columbia University)
Associate Professor of Journalism and Communications, Producer-Director, Television Station WUFT (1964-1973).

JAEGER, INA CLAIRE, M.M.
Associate Professor of Music (1968-1974).

JAEGER, MARC J., M.D. (University of Berne, Switzerland)
Professor of Physiology and Dentistry (1970-1975).

JAMES, JOHN H., D.B.A. (University of Indiana)
Associate Professor of Management (1961-1964).

JAMES, SUE H., M.Ed.
Residence Life Coordinator, Student Housing (1968-1973).

JANES, MELVIN JOSEPH, Ph.D. (Iowa State University)
Associate Professor (Associate Entomologist), IFAS Agricultural Research and Education Center, Belle Glade

JANICKI, LAWRENCE JOHN, M.S. (University of Florida)
Assistant in Research, International Programs, IFAS, Bolivia (1971-1975).

JANKY, DOUGLAS MICHAEL, Ph.D. (University of Nebraska)
Assistant Professor (Assistant Poultry Products Technologist), IFAS, (1974-1974).

JAROSZEWICZ, MARK T., E.T.H., A.I.A. (Swiss Federal Institute of Technology)
Dean and Professor of Architecture (1976-1976).

JENNINGS, ROBERT BENJAMIN, J.D. (University of Florida)
Associate Professor of Management & Business Law, College of Business Administration (1957-1974).

JENSEN, ANTHONY SVEND, M.S.F. (University of Florida)
Assistant Professor (Extension Forester), IFAS (1953-1953).

JENSEN, PAUL J., Ph.D. (University of Iowa)
Professor of Speech and Linguistics and Chairperson, Department of Speech (1963-1975).

JERNIGAN, JAMES A., M.D. (Washington University, St. Louis)
Assistant Professor of Community Health and Family Medicine and Medicine (1974-1976).

JESSE, RICHARD R., JR., Ph.D. (Cornell University)
Assistant Professor of Management (1972-1972). *

JESTER, ROBERT E., Ph.D. (University of Utah)
Associate Professor of Education (1966-1969).

JILEK, ANTHONY FRANCIS, Ph.D. (University of Florida)
Assistant Professor (Area Specialist-Livestock Extension) IFAS (1973-1975).

JOHNS, LEWIS E., JR., Ph.D. (Carnegie Institute of Tecnology)
Associate Professor of Chemical Engineering (1967-1972).

JOHNSON, CHARLES ROBERT, Ph.D. (Oregon State University)
Associate Professor (Associate Ornamental Horticulturist), IFAS (1973-1976).

JOHNSON, F. CLIFFORD, Ph.D. (University of Texas)
Professor of Zoology (1967-1973).

JOHNSON, FREDDIE A., Ph.D. (University of Florida)
Assistant Professor (Extension Entomologist), IFAS (1973-1975).

JOHNSON, GORDAN S., B.A., A.I.A.
University Physical Planning Consultant, Facilities Planning and Operations, J. Hillis Miller Health Center (1968-1973).

JOHNSON, IRMGARD, Ph.D. (University of Denver)
Professor of Humanities (1955-1967).

JOHNSON, JAMES TROY, Ph.D. (Virginia Polytechnic Institute)
Associate Professor (Associate Agronomist) and Center Director, Agricultural Research Center, Live Oak, IFAS, (1970-1975).

JOHNSON, LATHROP PARK, Ph.D. (Johns Hopkins University)
Assistant Professor of German (1974-1974).

JOHNSON, LOYS ALMON, M.S.C.E.
Professor of Building Construction (1960-1964).

JOHNSON, RAYMOND CLARENCE, M.S.E.
Professor of Electrical Engineering and Director of Electronic Communications Laboratory (1946-1968).

JOHNSON, ROBERT WILLIAM, M.S. (Michigan State University)
Associate Professor of Soil Science (USDA Soil Scientist), IFAS (1974-1974).

JOHNSON, SIMON OTIS, Ed.D. (Indiana University)
Associate Professor of Education (1971-1976).

JOHNSON, SUSAN M., Ph.D. (University of Texas)
Assistant Professor of Pharmacy (1974-1974).

JOHNSTON, DAVID WARE, Ph.D. (University of California)
Professor of Zoology (1963-1974).

JOHNSTON, J.M., Ph.D. (University of Florida)
Associate Professor of Psychology (1975-1975).

JOHNSTON, OTTO W., Ph.D. (Princeton University)
Associate Professor of German (1969-1972).

JOHNSTON, PATRICIA A., M.S. in L.S.
Assistant Librarian, Documents (1974-1974).

JOINER, JAMES G., Ph.D. (University of Alabama)
Assistant Professor in Rehabilitation Counseling (1972-1972).

JOINER, JASPER NEWTON, Ph.D. (Ohio State University)
Professor (Ornamental Horticulturist), IFAS (1950-1966).

JOLLEY, CLARE F. Jr., B.S.E. (University of Florida)
Systems Coordinator (1974-1976).

JONES, DAVID WILSON, M.S.A.
Professor of Agronomy, IFAS (1946-1971).

JONES, ERNEST McCLAIN, J.S.D. (Yale University)
Professor of Law (1954-1957).

JONES, ESTHER J., M.LN.
Associate Librarian, J. Hillis Miller Health Center Library (1970-1975).

JONES, JACK S., D.M.D. (University of Kentucky)
Assistant Professor of Community Dentistry, College of Dentistry (1975-1975).

JONES, JESSE RAY, JR., M.A. in L.S.
Librarian, Reference and Bibliography (1961-1975).

JONES, JOHN PAUL, Ph.D. (Ohio State University)
Professor (Plant Pathologist), IFAS, Agricultural Research and Education Center, Bradenton (1958-1970).

JONES, JOHN PAUL, Jr., M.A.
Professor of Journalism and Communications (1948-1968).

JONES, OTIS P., JR., B.S. (Florida State University)
Director, Auxiliary Services (1967-1967).

JONES, WILLIAM MAURICE, Ph.D. (Southern California Univ.)
Professor of Chemistry (1965-1968).

JORDAN, PHYLLIS M., M.L.S. (Atlanta University)
Assistant Law Librarian (1974-1974).

JORDAN, VIRGINIA GOODELL, M.Ed. (University of Florida)
Assistant Professor of Medical Technology (1967-1967).

JORDAN, KENNETH FORBIS, Ed.D. (Indiana University)
Professor of Education (1971-1971).

JOYCE, PETER H., M.D. (Trinity College)
Instructor of Radiology, VAH (1976-1976).

JUERGENSMEYER, JULIAN C., J.D. (Duke University)
Professor of Law (1972-1972).

JULIN, JOSEPH R., J.D. (Northwestern University)
Professor of Law and Dean, College of Law (1971-1971).

JULIUS, RICHARD L., M.D. (University of Florida)
Assistant Professor of Pediatrics and Medical Director, Gainesville Sunland Training Center (1970-1973).

JUNCOS, LUIS I., M.D. (National University of Argentina)
Associate Professor of Medicine, VAH (1972-1976).

JUNGNICKEL, DIETER HEINZ, Ph.D. (University of London)
Visiting Assistant Professor of Mathematics (1976-1976).

KADZIELAWA, KRZYSZTOF, M.D., Ph.D. (Academy of Medicine, Warsaw)
Associate Professor of Pharmacology and Therapeutics (1976-1976).

KAFOGLIS MILTON Z., Ph.D. (Ohio State University)
Professor of Economics (1958-1968). *

KAISER, BARBARA M., M.Ed. (University of Florida)
Teacher, P.K. Yonge (1975-1975).

KAISER, WILLIAM FRANCIS, M.B.A.
Associate Engineer in Electrical Engineering (1969-1976).

KALCH, LESTER WILCOX, M.Ag.
Associate Professor (Associate Extension Poultryman), IFAS, (1951-1968).

KALLENBACH, ERNEST A., Ph.D. (McGill University)
Associate Professor of Anatomy (1963-1969).

KALLMAN, ROBERT RICHARD, Ph.D. (Massachusetts Institute of Technology)
Professor of Mathematics (1972-1976).

KALMAN, RUDOLF E., D.Sc. (Columbia University)
Graduate Research Professor of Mathematics, Electrical Engineering, Industrial and Systems Engineering, and Engineering Sciences (1971-1971).

KALMBACHER, ROBERT S., Ph.D. (Pennsylvania State University)
Assistant Professor (Assistant Agronomist), Agricultural Research Center, ONA, IFAS (1975-1975).

KALRA, SATYA PAUL, Ph.D. (University of Delhi, India)
Associate Professor of Obstetrics and Gynecology (1971-1976).

KALRA, PUSHPA S., Ph.D. (University of Delhi)
Assistant Professor of Obstetrics and Gynecology (1975-1976).

KANTOWSKI, ELEANORE L., Ed.D. (University of Georgia)
Assistant Professor of Education (1974-1974).

KARLAN, MARC S., M.D. (University of Pennsylvania)
Assistant Professor and Chief of Otolaryngology (1975-1975).

KARLEN, DELMAR, LL.B. (Columbia University)
Visiting Professor of Law (1976-1976).

KARP, GERALD C., Ph.D. (University of Washington)
Associate Professor, Microbiology and Cell Science, Arts and Sciences (1971-1976).

KAUDE, JURI VELLO, M.D. (University of Kiel)
Professor of Radiology (1971-1971).

KAUFMAN, HERBERT E., M.D. (Harvard University)
Professor and Chairperson, Department of Ophthalmology and Professor of Pharmacology (1962-1969).

KAUFMANN, DAVID ALLEN, Ph.D. (University of Iowa)
Associate Professor of Professional Physical Education (1970-1974).

KAUFMANN, JOHN HENRY, Ph.D. (University of California)
Professor of Zoology (1963-1974).

KEEFER, DENNIS RALPH, Ph.D. (University of Florida)
Associate Professor of Engineering Sciences (1963-1972).

KEENE, BEVERLY A., M.N.
Director of Nursing Services, Shands Teaching Hospital and Clinics (1973-1975).

KEESLING, JAMES EDGAR, Ph.D. (University of Miami)
Professor of Mathematics (1967-1975).

KEETER, AUDREY, M.N. (University of Florida)
Assistant Professor, College of Nursing (1967-1969).

KEIG, NORMAN GUTHRIE, Ph.D. (Ohio State University)
Associate Professor of Economics (1963-1966).

KEISTER, ELWOOD J., Ed.D.
Professor of Music (1957-1963).

KEITH, CURTIS L., Ph.D. (University of Kentucky)
Assistant Professor of Community Dentistry, College of Dentistry (1975-1975).

KEITT, ALAN S., M.D. (Harvard University)
Associate Professor of Pathology and Medicine, Head of Hematology Division (1968-1975).

KELLER, OLIVER J., M.A. (N. Illinois University)
Visiting Professor of Criminal Justice (1975-1975).

KELLY, DANIEL LEO, Ed.D. (University of Florida)
Assistant Professor of English, Adviser (1965-1967).

KELLY, EARL MCNEIL, Ph.D. (Florida State University)
Professor (Extension District Agent), IFAS, (1949-1969).

KELLY, ELIZABETH GRANT, M.S.L.S.
Associate Librarian, Acquisitions Dept. (1970-1975).

KELLY, J. F., Ph.D. (University of Wisconsin)
Professor and Chairperson, Vegetable Crops Department, IFAS (1972-1972).

KELSO, WILLIAM A., Ph.D. (University of Wisconsin)
Assistant Professor of Political Science (1973-1973).

KELTING, ROBERT HERMAN, Ph.D. (University of Wisconsin)
Assistant Professor of Real Estate and Urban Analysis (1975-1975).

KEM, CAROL RITZEN, M.S. in L.S.
Assistant Librarian Reference and Bibliography (1972-1972).

KEM, WILLIAM R., Ph.D. (University of Illinois)
Assistant Professor of Pharmacology and Therapeutics (1971-1971).

KEMP, HAROLD WARREN, M.S.
Associate Professor of Architecture (1966-1971).

KENDALL, KENNETH EVERETT, Ph.D. (University of Florida)
Associate Professor of English (1965-1970).

KENDALL, ROBERT L., Ph.D. (Indiana University)
Assistant Professor of Journalism and Communications (1974-1975).

KENNY, LAWRENCE, W., B.A. (Wesleyan University)
Assistant Professor of Economics (1975-1975).

KENT, KURT E., Ph.D. (University of Minnesota)
Associate Professor of Journalism and Communications (1970-1976).

KEPNER, KARL W., Ph.D. (Ohio State University)
Professor (Extension Economist, Marketing), Food and Resource Economics, IFAS (1976-1976).

KERR, STRATTON HORSBURG, Ph.D. (Cornell University)
Professor (Entomologist), IFAS (1953-1968).

KERSHNER, RICHARD B., Ph.D. (Stanford University)
Associate Professor of English (1971-1976).

KERSLAKE, KENNETH ALVIN, M.F.A.
Professor of Art (1956-1974).

KESTERSON, JAMES WALTER, M.S.
Professor (Chemist), IFAS, Agricultural Research and Education Center, Lake Alfred (1947-1956).

KHAKOO, RASHIDA A., M.D. (Makerere Univ. Medical School)
Assistant Professor of Medicine (1976-1976).

KHE, CHAU VAN, Ph.D. (University of California)
Assistant Professor (Assistant Agricultural Engineer), IFAS (1975-1975).

KHURI, ANDRE I., Ph.D. (Virginia Polytechnic Institute & State University)
Assistant Professor of Statistics (1976-1976).

KIDDER, GERALD, Ph.D. (Oklahoma State University)
Assistant Professor, IFAS, Agricultural Research and Education Center, Belle Glade (1975-1975).

KIKER, CLYDE F., Ph.D. (University of Florida)
Assistant Professor of Food and Resource Economics (1966-1974).

KILPATRICK, KERRY E., Ph.D. (University of Michigan)
Associate Professor of Community Health and Family Medicine and Industrial and Systems Engineering; Director of Health Systems Research (1970-1974).

KIMBALL, SOLON T., Ph.D. (Harvard University)
Graduate Research Professor of Anthropology (1966-1966).

KIMBROUGH, JAMES WILLIAM, Ph.D. (CORNELL UNIVERSITY)
Professor of Botany Arts and Sciences (1964-1976).

KIMBROUGH, RALPH BRADLEY, Ed.D. (University of Tennessee)
Professor of Education (1958-1966).

KING, ANN HUFFMAN, M.S. (Florida State University)
Assistant Librarian, IFAS (1966-1969).

KING, ARTHUR D., Ph.D. (Florida State University)
Associate Professor of Dental Education, College of Dentistry (1970-1975).

KING, EMILY ELIZABETH, Ph.D. (University of Wisconsin)
Professor (Extension Program Specialist), IFAS, (1946-1964).

KING, FRED E., M.S.
Director for Housing Personnel and Programs, Division of Housing (1951-1977).

KING, FREDERICK A., Ph.D. (Johns Hopkins University)
Professor and Chairperson, Department of Neurosciences (1972-1972).

KING, GREGORY J., D.M.D. (Tufts Univ.) D.M.Sc. (Harvard U.)
Assistant Professor of Orthodontics, College of Dentistry (1975-1975).

KING, HAROLD L., B.S. Adv. (University of Florida)
Assistant Bookstore Manager (1959-1973).

KING, ROBERT L., Ph.D. (Johns Hopkins University)
Assistant Professor of Neuroscience (1974-1974).

KING, ROY W., Ph.D. (Cambridge University)
Associate in Chemistry (1969-1970).

KINLOCH, ROBERT ARMSTRONG, Ph.D. (University of California)
Associate Professor (Associate Nematologist), IFAS, Agricultural Research Center, Jay (1968-1974).

KINZER, JOHN M., M.A.
Assistant to the Vice President for Student Affairs (1971-1971).

KINZER, SUZANNE M., Ed.D. (Rochester University)
Associate Professor of Education (1970-1975).

KINZEY, BERTRAM YORK, Jr., M.S.A.E.
Professor of Architecture (1959-1965).

KIRKPATRICK, MARTIN SMITH, M.A. (University of Florida)
Professor of English (1956-1975).

KIRMSE, DALE WILLIAM, Ph.D. (Iowa State University)
Assistant Professor of Chemical Engineering (1964-1965). *

KISH, LESLIE PAUL, M.S. (University of Florida)
Assistant Research Scientist, Entomology, IFAS (1973-1976).

KITCHENS, CRAIG S., M.D. (University of Florida)
Assistant Professor of Medicine VAH (1975-1976).

KITTS, JOHN STEWART, M.M.
Associate Professor of Music (1965-1974).

KLEIN, ELMER FLOYD, JR., M.D. (University of Missouri)
Associate Professor of Anesthesiology and Surgery, Chief Division of Respiratory Care and Medical Director of Surgical Intensive Care Unit (1971-1975).

KLEIN, PAUL A., Ph.D. (University of Florida)
Associate Professor of Path (1969-1974).

KLEMENT, FRANK WILLIAM, M.A.
Assistant Professor of Engineering Graphics (1958-1958).

KLINE, WILLIAM E., Ed.D. (University of Denver)
University Counseling Psychologist Associate Professor of Education.

KNAPP, FREDRICK W., Ph.D. (University of California)
Associate Professor (Associate Biochemist), IFAS (1960-1967).

KNAUSS, JAMES FREDERICK, Ph.D. (Cornell University)
Associate Professor (Associate Plant Pathologist), IFAS, Agricultural Research Center, Apopka (1969-1974).

KNELL, JOHN DAVID, Ph.D. (University of Florida)
Assistant Research Scientist (Entomology and Nematology), IFAS (1976-1976).

KNIGHT, JAMES W., Ed.D. (University of Georgia)
Acting Dean, Academic Affairs for Continuing Education (1973-1976).

KNISELEY, SHERMAN PHILIP, Ph.D. (University of North Carolina)
Associate Professor of Humanities, Adviser (1964-1969).

KNOWLTON, DOUGLAS, M.E. (University of Florida)
Captain, U.S. Army, Assistant Professor of Military Science (1976-1976).

KNOTTS, DOUG
Assistant Head Coach (1969-1976).

KNOWLES, LOIS NINA, Ph.D. (Laurence University)
Professor, College of Nursing (1956-1973).

KOBURGER, JOHN ALFRED, Ph.D. (North Carolina State Univ.)
Associate Professor (Associate Microbiologist), IFAS, and Associate Professor of Microbiology, Arts and Sciences (1969-1973).

KOEFOD, PAUL E., Ph.D. (Graduate Institute for International Studies, University of Geneva)
Professor of Economics (1956-1965).

KOEHLER, GARY JOSEPH Ph.D. (Purdue University)
Associate Professor of Managemnt (1974-1976).

KOEHLER, PHILLIP G. Ph.D. (Cornell University)
Assistant Professor (Extension Entomologist), IFAS (1975-1975).

KOEPKE, GARY E., B.S. (University of Cincinnati)
Planning Consultant (1973-1973).

KOGER, MARVIN, Ph.D. (University of Missouri)
Professor (Animal Geneticist), IFAS (1951-1951).

KOLARIK, J. MILAN, Ph.D. (University of Pittsburgh)
Director of University Counseling Center; Associate Professor of Psychology (1956-1963).

KOLTS, BYRON E., M.D. (University of Rochester)
Assistant Professor of Medicine, VAH (1972-1972).

KOO, ROBERT CHUNG JEN, Ph.D. (University of Florida)
Professor (Horticulturist), IFAS, Agricultural Research and Education Center, Lake Alfred (1953-1969).

KORAN, JOHN JOSEPH, JR., Ph.D. (Stanford University)
Professor of Education (1971-1974).

KORAN, MARY LOU, Ph.D. (Stanford University)
Professor of Education (1972-1976).

KOSCH, SHARON G., Ph.D. (University of Florida)
Clinical Psychologist (1974-1974).

KOSTEWICZ, STEPHEN R., Ph.D. (Ohio State University)
Assistant Professor (Horticulturist), IFAS (1972-1972).

KOTEY, PAUL F. A., Ph.D. (University of Wisconsin)
Associate Professor of Humanities and Linguistics (1974-1976).

KOVALIK, GUSTAVE THOMAS, M.A. (University of Denver)
Assistant Librarian, IFAS (1972-1972).

KOZAL, ALBERT PHILLIP, M.A.
Director of Residence Life, Student Housing (1971-1972).

KRAFT, HELGA W., (University of California at Berkeley)
Assistant Professor of German (1975-1975).

KRAMER, SOL, Ph.D. (University of Illinois)
Interim Curator, Florida State Museum and Professor of Ethology (1964-1975).

KRATINA, FREDRIC K., M.D. (Medical College of Georgia)
University Physician and Assistant Professor of Community Health and Family Medicine (1976-1976).

KRAUSCHE, CHARLES EMIL, M.S.C.E.
Assistant Professor of Building Construction (1970-1971).

KREICHER, LAWRENCE LOUIS, Ph.D. (Harvard University)
Assistant Professor of Economics (1976-1976).

KREMGOLD, DAVID ALAN, M.F.A.
Instructor of Art (1972-1975).

KRESS, JACOB H., M.D. (University of Virginia)
Chief, Occupational Medicine (1964-1964).

KRETSCHMER, ALBERT EMIL, JR., Ph.D. (Rutgers University)
Professor (Agronomist) IFAS, Agricultural Research Center, Ft. Pierce (1952-1966). *

KREUTZIGER, SARAH S., M.S.W. (University of Tennessee)
Instructor of Social Work in Psychiatry (1974-1974).

KREZDORN, ALFRED HERMAN, Ph.D. (Texas A&M University)
Professor (Horticulturist) Fruit Crops Department (1957-1960).

KROP, HARRY D., Ph.D. (University of Miami)
Assistant Professor of Clinical Psychology V.A.I (1971-1971).

KRUMM, ROGER VINCENT, M.A.
Librarian in Charge of Engineering & Physical Sciences Library (1951-1970).

KRUSE, JOHN F., D.D.S. (New York University)
Assistant Professor of Removable Prosthodontics, College of Dentistry (1976-1976).

KUCHAREK, THOMAS ALBERT, Ph.D. (University of Minnesota)
Associate Professor (Assistant Plant Pathologist), IFAS (1970-1975).

KULDAU, JOHN M., M.D. (Western Reserve University)
Associate Professor of Psychiatry (1975-1975).

KURZWEG, ULRICH HERMANN, Ph.D. (Princeton University)
Professor of Engineering Sciences (1968-1976).

KUSHNER, DAVID Z., Ph.D. (University of Michigan)
Professor of Music (1969-1969).

KYLSTRA, CHESTER DYER, Ph.D. (University of Florida)
Associate Professor of Nuclear Engineering Sciences (1967-1967).

LABARBERA, MICHAEL, Ph.D. (Duke University)
Assistant Professor of Zoology (1976-1976).

LABISKY, RONALD F., Ph.D. (University of Wisconsin)
Professor and Assistant Director, (Wildlife Ecology), IFAS (1976-1976).

LABRECQUE, GERMAIN C., Ph.D. (Ohio State University)
Professor (Entomologist) and Supervisor of Premises Treatment Project, IFAS, USDA, Entomology Research Laboratory (1963-1973).

LA GRECA, ANTHONY J., Ph.D. (Ohio State University)
Director, Urban and Regional Research Center and Assistant Professor of Sociology (1973-1973).

LAIPIS, PHILIP J., Ph.D. (Stanford University-School of Medicine)
Assistant Professor of Veterinary Medicine, Biochemistry and Molecular Biology (1974-1974).

LAITINEN, HERBERT AUGUST, Ph.D. (University of Minnesota)
Graduate Research Professor of Chemistry and Environmental Engineering (1974-1974).

LAMBERT, ROY E., Ph.D. (University of Illinois)
Associate Professor of Humanities (1959-1963).

LAMBERT, ZARREL, V., Ph.D. (Pennsylvania State University)
Associate Professor of Marketing and Director of M.B.A. Program (1970-1973).

LAMBING, MARY LOUISE, Ph.D. (University of Florida)
Assistant Professor (Health Education Specialist), IFAS (1975-1975).

LAMME, ARY JOHANNES, Ph.D. (Syracuse University)
Assistant Professor of Social Sciences and Geography (1974-1974).

LAMME, LINDA LEONARD, Ph.D. (Syracuse University)
Assistant Professor of Education (1974-1974).

LANCIANI, CARMINE A., Ph.D. (Cornell University)
Associate Professor of Zoology (1968-1973).

LANDSMAN, THEODORE L., Ph.D. (Syracuse University)
Professor of Counselor Education and Psychology (1958-1973).

LANGFORD, ALLIE GERALD, Ed.D. (Columbia University)
Associate Professor of English, Adviser (1953-1966). *

LANGFORD, R.G., M.M.
Assistant Professor of Music (1971-1971).

LANGHAM, MAX RAYMOND, Ph.D. (University of Illinois)
Professor, Food and Resource Economics Department, IFAS (1962-1970). *

LANZILLOTTI, ROBERT FRANKLIN, Ph.D. (California at Berkeley)
Professor of Economics and Dean of College of Business Administration (1969-1969).

LAPOINTE, LEONARD, Ph.D. (University of Colorado)
Assistant Professor of Communicative Disorders, V.A.1 (1969-1969).

LARCHE, THELMA B., M.A., in L.S. (Fla. State University)
Assistant Librarian, P.K. Yonge Laboratory School (1963-1968).

LARKIN, ANN REBECCA S., Ph.D. (University of Colorado)
Associate Professor of Biochemistry and Molecular Biology VAH (1968-1974).

LARKIN, LYNN HAYDOCK, Ph.D. (University of Colorado)
Associate Professor of Anatomy (1968-1973).

LARSEN, JANET SEGER, Ed.D. (University of Florida)
Associate Professor of English and Education (1969-1974).

LARSON, JEAN A., Ph.D. (Dartmouth)
Assistant Professor of Mathematics (1974-1974)

LASKIN, JEFFREY L., D.D.S. (Indiana University) M.S. (Ohio State University)
Assistant Professor of Oral Surgery, College of Dentistry (1976-1976).

LASLEY, MARION MURRAY, Ph.D. (Columbia University)
Associate Professor of Spanish (1956-1956).

LATIF, MOHAMMED A., Ph.D. (University of Florida)
Assistant Engineer in Coastal and Oceanographic Engineering Laboratory (1974-1975).

LATOUR, MARINUS HENRY, M.S.E.
Associate Professor of Electrical Engineering (1946-1950).

LATOUR, STEPHEN A., Ph.D. (University of NC at Chapel Hill)
Assistant Professor of Marketing (1976-1976).

LAURENT, JANE K., Ph.D. (Brown University)
Adjunct Assistant Professor of History (1976-1976).

LAWLESS, ROBERT D., Ph.D. (New School of Social Research)
Assistant Professor of Social Sciences and Anthropology (1976-1976).

LAWRENCE, FREDERIC S., M.A.T.
Teacher, P.K. Yonge Laboratory School (1970-1972).

LAWRENCE, GORDAN D., Ph.D. (Claremont Graduate School)
Associate Professor of Education (1969-1969).

LAWRENCE, PAULINE, Ph.D. (University of Florida)
Assistant Professor of Zoology (1976-1976).

LAZORITZ, MARTIN, M.D. (Medical College of Virginia)
Assistant Professor of Psychiatry and Co-Director of Adult and Adolescent Inpatient Unit (1975-1976).

LEACOCK, ROBERT JAY, Ph.D. (University of Florida)
Associate Professor of Physical Sciences, Advisor (1971-1976).

LEADON, BERNARD MATHEW, Ph.D. (University of Minnesota)
Professor of Engineering Sciences (1964-1964).

LEAHY, THOMAS M., M.A. (University of Florida)
Assistant in Editorial, IFAS (1974-1974).

LEAL, FREDDY JOSE, Ph.D. (University of Florida)
Adjunct Associate Professor (Associate Horticulturist) Univ. Central de Venzuela, IFAS (1975-1975).

LEATHERS, CHESTER W., Ed.D. (University of Georgia)
Director, Program Development, Division of Continuing Education (1972-1975).

LEAVENWORTH, RICHARD S., Ph.D. (Stanford University)
Associate Professor of Industrial and Systems Engineering (1966-1966).

LEAVITT, NORMA MURIEL, Ed.D. (Columbia University)
Professor of Professional Physical Education (1953-1963).

LEBO, GEORGE ROBERT, Ph.D. (University of Florida)
Assistant Professor of Astronomy (1964-1965).

LEBOWITZ, MARTIN S., D.D.S., M.S. (Indiana University)
Assistant Professor of Oral Surgery, College of Dentistry (1975-1975).

LEE, HONG HIE, Ph.D. (Purdue University)
Assistant Professor of Chemical Engineering (1976-1976).

LEE, JONG-YING, Ph.D. (University of Florida)
Research Economist, Food and Resource Economics, DC, IFAS (1975-1976).

LEE, PERMILLAS ARTEN, JR., M.A.
Assistant Professor of Physical Education (1948-1951).

LEFTRIDGE, CLIFTON A., M.D. (Memory Medical College)
Assistant Professor of Radiology (1976-1976).

LEGG, KEITH R., Ph.D. (University of California)
Professor of Political Science (1966-1975). *

LEGRAND, FERDINAND, M.S. (College for Sugar Chemistry and Technology, Deventer, Holland)
Associate Professor of Agronomy, IFAS (1958-1972).

LEHMANN, LUCILE R., M.S. (Florida State University)
Assistant Research Scientist (Archivist) in Coastal and Oceanographic Engineering Laboratory (1974-1974).

LEIBBRANDT, VERNON DEAN, Ph.D. (Iowa State University)
Assistant Professor (Assistant Animal Scientist), IFAS, Agricultural Research Center, Marianna (1975-1975).

LEIBMAN, KENNETH C., Ph.D. (New York University)
Professor of Pharmacology and Therapeutics (1956-1968).

LEILICH, ROY EDGAR, Re.D. (University of Indiana)
Professor of Recreation (1952-1967).

LEMARCHAND, RENE, Ph.D. (University of California at Los Angeles)
Professor of Political Science (1962-1971). *

LEMBERGER, MAX AUGUST, M.S.
Associate Professor of Pharmacy, Assistant Dean, College of Pharmacy (1971-1971).

LEO, A. LEWIS, D.M.D. (University of Alabama)
Assistant Professor of Community Dentistry, College of Dentistry (1973-1974).

LEONARD, CHARLES T., B.S.M.T. (Merrimack College)
Instructor of Medical Technology, V.A. (1972-1972).

LEONARD, CHESTER D., Ph.D. (Rutgers University)
Professor (Horticulturist), IFAS, Agricultural Research and Education Center, Lake Alfred (1950-1966).

LEONARD, CHRISTINA M., Ph.D. (Massachusetts Institute of Technology)
Associate Professor of Neuroscience (1976-1976).

LEPPLA, NORMAN CAREY, Ph.D. (University of Arizona)
Assistant Professor (Assistant Entomologist), IFAS, USDA (1973-1973).

LERCH, HAROLD ALEXANDER, Ph.D. (Ohio State University)
Associate Professor of Professional Physical Education (1968-1973).

LESLIE, GERALD R., Ph.D. (Ohio State University)
Professor and Chairperson, Department of Sociology (1967-1967).

LESTER, BARRY MARSHALL, Ph.D. (Michigan State University)
Assistant Professor (1973-1973).

LEVIN, SIDNEY, M.D. (Baylor University)
Professor of Pediatrics and Chairperson, Department of Pediatrics (JHEP).

LEVY, C. M. JR., Ph.D. (University of Wisconsin)
Professor of Psychology and Clinical Psychology (1964-1975).

LEWIS, A. L., JR., Ph.D. (Duke University)
Professor of Humanities and Philosophy (1957-1966).

LEWIS, ARTHUR J., Ed.D. (Columbia University)
Professor of Education and Director, Division of Curriculum and Instruction, College of Education (1970-1970).

LEWIS, CHARLES W., JR., M.D. (Duke University)
Assistant Professor of Surgery (JHEP) (1973-1973).

LEWIS, DAVID E., M.A. (Northern Michigan University)
Assistant Professor of Community Health and Family Medicine (1972-1972).

LEWIS, HAL GRAHAM, Ph.D. (Columbia University)
Distinguished Service Professor of Educational Foundations (1936-1976).

LEWIS, JEFFREY, J.D. (Duke Univesity)
Associate Professor of Law (1972-1975).

LEWIS, W. J., Ph.D. (Mississippi State University)
Assistant Professor of Entomology, Georgia Coastal Plains Experiment Station, Tifton, Georgia, IFAS (1970-1970).

LEY, KENNETH D., Ph.D. (Washington State University)
Assistant Professor, College of Veterinary Medicine—IFAS (1971-1973).

LEZOTTE, DENNIS C., Ph.D. (State University of New York at Buffalo)
Assistant Research Scientist (1975-1975). Instructor of Pathology and Assistant Professor of

LI, KUANG-PANG, Ph.D. (University of Illinois)
Assistant Professor of Chemistry (1973-1973).

LI, SHENG-SAN, Ph.D. (Rice University)
Associate Professor of Electrical Engineering (1968-1973).

LIEB, SANDI, Ph.D. (University of Kentucky)
Assistant Professor (Assistant Animal Nutritionist), IFAS (1974-1974).

LIEBERMAN, LESLIE SUE, Ph.D. (University of Connecticut)
Assistant Professor of Anthropology (1976-1976).

LILES, ANNETTE LUCILLE, M.A., B.A. in L.S.
Librarian and Chairman, Reference and Bibliography Department (1947-1970).

LINCOLN, EDWARD PALMER, Ph.D. (University of Arizona)
Research Scientist, IFAS (1975-1975).

LIND, STEPHEN ANDERSON, LL.M. (New York University)
Professor of Law (1970-1974). *

LINDER, MICHAEL MERWYN, M.S.P.
Assistant Professor of Pharmacy (VAH) (1974-1974).

LINDGREN, ERIK RUNE, Tekn. Dr. (Royal Inst. of Tech., Sweden)
Professor of Engineering Sciences (1965-1965). *

LINDHOLM, FRED ARTHUR, Ph.D. (University of Arizona)
Professor of Electrical Engineering (1966-1966).

LINDQUIST, ROBERT CARL, M.S.
Assistant Professor of Physical Sciences (1959-1965).

LINGREN, PETER D., Ph.D.
Associate Professor (Associate Entomologist), College Station, Texas, Toxicology and Entomology, IFAS (1971-1971).

LIPSEY, RICHARD L., Ph.D. (University of Illinois)
Associate Professor IFAS (1976-1976).

LIPTON, PAUL P., LL.M. (Harvard Law School)
Adjunct Lecturer (1976-1976).

LISCA, PETER, Ph.D. (University of Wisconsin)
Professor of English (1960-1970). *

LISLE, FORREST, JR., M.Arch.
Associate Professor of Architecture (1970-1975).

LITTELL, RAMON C., Ph.D. (Oklahoma State)
Associate Professor (Associate Statistician), IFAS (1970-1975).

LITTLE, AUGUSTUS L., Ed.D. (University of Florida)
Visiting Assistant Research Scholar of Education (1974-1976).

LITTLE, JOSEPH WALLACE, J.D. (University of Michigan)
Professor of Law (1967-1971).

LLINAS, JOSE J., M.D. (Havana University)
Professor of Psychiatry (1974-1976).

LLORENS, LELA A., Ph.D. (Wayne State University)
Professor of Occupational Therapy (1971-1976).

LLOYD, JAMES E., Ph.D. (Cornell University)
Professor of Entomology, IFAS, (1966-1974).

LO, CHING NING, M.Arch.
Assistant Professor of Architecture (1974-1974).

LOCASCIO, SALVADORE JOSEPH, Ph.D. (Purdue University)
Professor (Horticulturist), IFAS (1959-1969).

LOCKHART, MADELYN, Ph.D. (Ohio State University)
Professor of Economics, Professor, Bureau of Economic and Business Research, and Assistant Dean of the Graduate School (1960-1974).

LOEB, IRVIN
Systems Coordinator (1969-1975).

LOEHMAN, EDNA TUSAK, Ph.D. (Purdue University)
Associate Professor, Food and Resource Economics Department, IFAS (1970-1975).

LOEHMAN, RONALD ERNEST, Ph.D. (Purdue University)
Associate Professor of Materials Science and Engineering (1970-1975).

LOESCH, LARRY CHARLES, Ph.D. (Kent State University)
Assistant Professor of Education (1973-1973).

LOFGREN, CLIFFORD SWANSON, Ph.D. (University of Florida)
Professor (Entomologist), USDA, IFAS (1968-1975).

LOGGINS, PHILLIP EDWARDS, M.S. (Oklahoma State)
Professor (Animal Husbandman), IFAS, (1953-1974).

LOKKEN, LAWRENCE ALBERT, J.D. (University of Minnesota)
Associate Professor of Law (1974-1974). *

LONG, ROBERT L., Ph.D. (University of Illinois)
Assistant Professor of Mathematics (1972-1972).

LONG, STEPHEN GANO, M.A. (University of Florida)
Assistant Professor of English (1958-1958). *

LONGLEY, SELDEN, III, M.D (Vanderbilt University)
Assistant Professor of Medicine VAH (1975-1975).

LONGSTRETH, CATHERINE ARCHIBALD, Ed.D. (University of Miami)
Associate Director; Assistant Professor P.K. Yonge Laboratory School (1973-1973).

LOOSLI, JOHN K., Ph.D. (Cornell University)
Visiting Professor in Animal Science, IFAS (1974-1974).

LOSANO, WAYNE A., Ph.D. (Rensselaer Polytechnic Institute)
Assistant Professor of English (1975-1975).

LOTZ, JOHN C., M.A.
Head Basketball Coach (1973-1973).

LOTZKAR, STANLEY, D.D.S. (New York University), M.P.H. (University of Pittsburgh)
Professor and Chairman of Community Dentistry, College of Dentistry (1971-1975).

LOUIE, KENNETH A., D.M.D. (University of Florida)
Assistant Professor of Occlusion and Fixed Prosthodontics, College of Dentistry (1976-1976).

LOW, SAMUEL B., D.D.S., M.S. (University of Texas)
Assistant Professor of Periodontics, College of Dentistry (1975-1975).

LOWDIN, PER-OLOV, Ph.D. (Uppsala)
Graduate Research Professor of Chemistry and Physics (1960-1960).

LOWE, RONALD EDSEL, Ph.D. (Purdue University)
Associate Professor (Associate Entomologist), IFAS, USDA (1966-1973).

LOWE, TIMOTHY J., Ph.D. (Northwestern University)
Assistant Professor of Industrial and Systems Engineering (1973-1973).

LOWENSTEIN, RALPH L., Ph.D. (University of Missouri)
Dean and Professor of Journalism and Communications (1976-1976).

LOZIER, TIMOTHY ROBERT, M.L.S. (University of California)
Assistant Librarian, Catalog Department (1976-1976).

LU, SUNG YUN, Ph.D. (Carnegie Institute of Technology)
Associate Professor of Engineering Sciences (1959-1963). *

LUCANSKY, TERRY W., Ph.D. (Duke University)
Associate Professor of Botany, Arts and Sciences (1971-1976).

LUEHR, CHARLES POLING, Ph.D. (University of California)
Associate Professor of Mathematics (1970-1975).

LUGO, ARIEL EMILIO, Ph.D. (University of North Carolina)
Associate Professor of Botany, Arts and Sciences (1969-1976).

LUKE, HERBERT HODGES, Ph.D. (Louisiana State University)
Professor (Plant Pathologist, USDA) IFAS, (1955-1955).

LUND, JENNIFER, M.A. (George Peabody College for Teachers)
Visiting Teacher, P.K. Yonge Laboratory School (1976-1976).

LUNDEEN, HARRY C., D.D.S. (University of Minnesota)
Professor of Occlusion and Fixed Prosthodontics, College of Dentistry (1971-1971).

LUNDGREN, DALE ALLEN, Ph.D. (University of Minnesota)
Professor of Environmental Engineering Sciences (1972-1976).

LUTRICK, MONROE CORNEALOUS, Ph.D. (Ohio State University)
Associate Professor (Associate Soils Chemist), IFAS, Agricultural Research Center, Jay (1956-1957).

LUTTGE, WILLIAM G., Ph.D. (University of California)
Associate Professor of Neuroscience and Associate Chairperson (1971-1976).

LYNCH, ANN, Ed.D. (University of Florida)
University Counseling Psychologist (1968-1968).

LYNCH, MICHEL A., Ph.D. (University of Florida)
Assistant Professor of Physical Sciences and Astronomy (1971-1972).

LYNNE, GARY DEAN, Ph.D. (Oregon State University)
Assistant Professor (Assistant Agricultural Economist), IFAS (1974-1974).

LYONS, HENRY R., M.D. (Georgetown University)
Associate Professor in Psychiatry, Chief of Psychiatric Service, VAH (1960-1967).

LYRENE, PAUL MAGNUS, Ph.D. (University of Wisconsin)
Assistant Professor (Assistant Plant Breeder), IFAS, Agriculture Research and Education Center, Belle Glade (1974-1974).

MACAULAY, NEILL WEBSTER, JR., Ph.D. (University of Texas)
Professor of History (1964-1975).

MACDONALD, WILLIAM DICKSON, S.J.D. (University of Michigan)
Professor of Law (1948-1951).

MACKENZIE, RICHARD S., D.D.S. (University of Michigan)
Ph.D. (University of Pittsburgh) Professor and Chairman of Dental Education, College of Dentistry (1969-1974).

MACKIE, JAMES, M.A.E.
Assistant Athletic Trainer (1976-1976).

MADDALA, G. S., Ph.D. (University of Chicago)
Graduate Research Professor of Economics (1975-1975).

MADURO, LOIS A., M.R.C. (University of Florida)
Assistant Professor of Occupational Therapy (1973-1973).

MAGEE, CLARENCE H., B.A.
Coordinator of Educational Media, Learning Resources, J. Hillis Miller Health Center (1964-1974).

MAGGIOTTO, MICHAEL A., M.A. (Indiana University)
Interim Assistant Professor, Political Science (1976-1976).

MAGIE, ROBERT OGDEN, Ph.D. (University of Wisconsin)
Professor (Plant Pathologist), IFAS, Agricultural Research and Education Center, Bradenton (1954-1954).

MAHAN, CHARLES S., M.D. (Northwestern University)
Associate Professor of Obstetrics and Gynecology and Head of Ambulatory Care Division (1974-1975).

MAHAN, PARKER E., D.D.S. (Emory University)
Ph.D. (University of Rochester) Professor and Chairman of Basic Dental Sciences, College of Dentistry and Professor of Neuroscience, College of Medicine (1971-1971).

MAHIG, JOSEPH, Ph.D. (Ohio State)
Professor of Mechanical Engineering (1967-1973).

MAHON, JOHN KEITH, Ph.D. (University of California at Los Angeles)
Professor of History and Holder of the Chair of American Studies (1954-1966).

MAHONEY, JAMES J., M.D. (University of Florida)
Instructor of Medicine (1976-1976).

MAHONEY, JOHN FRIEND, Ph.D. (Lehigh University)
Associate Professor of Industrial and Sytems Engineering (1964-1966).

MAJTHAY, ANTAL, Ph.D. (University of Szeged, Hungary)
Associate Professor of Management (1972-1972).

MALAGODI, EDWARD F., JR., Ph.D. (University of Miami)
Associate Professor of Psychology (1968-1972).

MALAGODI, MAJORIE H., Ph.D. (University of Florida)
Assistant Professor of Pharmacology and Therapeutics, VAH (1976-1976).

MALICKSON, DAVID L., M.S.
Assistant Professor of Journalism and Communications (1969-1970).

MALKINSON, MERTYN H., Ph.D. (University of Liverpool)
Visiting Professor of Immunology and Medical Microbiology (1976-1976).

MALO, SIMON EDWARD, Ph.D. (University of Florida)
Associate Professor (Associate Horticulturist), IFAS, Agricultural Research and Education Center, Homestead (1964-1971). *

MALONEY, FRANK EDWARD, J.D. (University of Florida)
Professor of Law and Dean Emeritus (1946-1973).

MALVERN, LAWRENCE EARL, Ph.D. (Brown University)
Professor of Engineering Sciences (1969-1969).

MALVERN, MARJORIE, Ph.D. (Michigan State University)
Associate Professor of Humanities (1969-1975).

MANASTER, STEVEN, M.B.A. (University of Chicago)
Assistant Professor of Finance (1975-1975).

MANGOS, JOHN A., M.D. (Aristotelion University)
Professor of Pediatrics (1975-1975).

MANISCALCO, JACK E., M.D. (University of Florida)
Assistant Professor of Neurosurgery (1975-1975).

MANN, ROBERT T., LL.M. (Yale)
Professor of Law (1974-1974). *

MANS, RUSTY J., Ph.D. (University of Florida)
Professor of Biochemistry and Molecular Biology (1969-1969).

MANSELL, ROBERT S., Ph.D. (University of Iowa)
Associate Professor of Soil Science (Soil Physics), IFAS (1968-1973).

MAPLE, MARILYN J., B.A.
Coordinates of Educational Media, Learning Resources Center, J. Hillis Miller Health Center (1967-1974).

MAPLES, WILLIAM R., Ph.D. (University of Texas)
Associate Curator of Anthropology and Chairman of Social Sciences, Florida State Museum and Associate Professor of Anthropology (1968-1973).

MARAULIA, MATTHEW DANIEL, B.S. (Florida Southern)
Adjunct Instructor (Assistant in Chemistry), IFAS, DO, AREC—Lake Alfred (1957-1960).

MARCUS, ROBERT BROWN, Ed.D. (University of Florida)
Professor of Physical Sciences and Geography, Adviser (1955-1968).

MAREN, THOMAS H., M.D. (Johns Hopkins University)
Professor and Chairperson, Department of Pharmacology and Therapeutics (1955-1955).

MARGOLIS, MAXINE LUANNA, Ph.D. (Columbia University)
Associate Professor of Anthropology (1969-1974).

MARION, WAYNE RICHARD, Ph.D. (Texas A&M University)
Assistant Professor (Assistant Wildlife Ecologist), IFAS (1975-1975).

MARKEL, NORMAN N., Ph.D. (University of Chicago)
Professor of Speech, Psychology, and Anthropology (1964-1973).

MARKS, RONALD G., Ph.D. (University of Florida)
Assistant Professor of Statistics (1974-1974).

MARLATT, ROBERT BRUCE, Ph.D. (University of Arizona)
Professor (Plant Pathologist), IFAS, Agricultural Research and Education Center, Homestead (1964-1973).

MARLOWE, G. A., JR., Ph.D. (University of Maryland)
Professor (Extension Vegetable Specialist), IFAS, AREC, Bradenton (1969-1969).

MAROUSKY, FRANCIS J., Ph.D. (University of Virginia)
Associate Professor (Associate Horticulturist), IFAS, USDA, Agricultural Research and Education Center, Bradenton (1967-1973).

MARSHALL, ARTHUR R., M.S.
Associate in Urban Studies, Urban and Regional Development Center (1973-1974).

MARSHALL, SIDNEY PAUL, Ph.D. (University of Minnesota)
Professor (Nutritionist), IFAS (1942-1958).

MARSTON, ROBERT Q., M.D. (Medical College of Virginia)
President of University of Florida and Professor of Medicine (1974-1974).

MARTIN, DONALD F., M.A.
Assistant Professor of Journalism and Communications (1974-1974).

MARTIN, FRANK G., Ph.D. (N. Carolina State College)
Associate Professor (Associate Statistician) IFAS (1964-1964).

MARTIN, MARGUERITE E., M.B. (Louisiana Tech University)
Assistant in Research, Bureau of Economic and Business Research (1974-1974).

MARTIN, THOMAS E., M.S.B.C.
Assistant Professor of Building Construction (1964-1969).

MARTIN, WILLIAM THEODORE, JR., M.Arch.
Instructor in Building Construction (1973-1973).

MARTINEZ, JORGE, Ph.D. (Tulane University)
Associate Professor of Mathematics (1970-1975).

MARVEL, MASON E., Ph.D. (University of West Virginia)
Professor (Horticulturist), IFAS (1957-1972).

MARX, D. H., Ph.D. (North Carolina State University)
Associate Professor of Soil Science (Coop. U.S. Forest Service), IFAS (1972-1972).

MASKIN, MEYER H., M.D. (Wayne University)
Professor of Psychiatry, VAH (1968-1968).

MASSEY, TOM, M.Ed. (University of Florida)
Instructor, P.K. Yonge Laboratory School (1967-1971).

MATA, JOHN F., M.Ed.
Director of Residence Life, Student Housing (1971-1973).

MATHENY, ELLIS L. JR., (University of Tennessee)
Assistant Professor of Entomology, IFAS (1976-1976).

MATHIAS, JOHN R., M.D. (Temple University)
Assistant Professor of Medicine, VAH (1975-1975).

MATHIS, WILLIAM KARY, JR., Ph.D. (Texas A&M University)
Associate Professor and Director of Agricultural Marketing Research Center, Food and Resource Economics Department, IFAS (1969-1974).

MATTHEWS, CHARLES ARNOLD, Ph.D. (University of Virginia)
Professor of Finance; Associate Dean. College of Business Administration (1948-1957).

MATTHEWS, RICHARD FINIS, Ph.D. (Cornell Universiy)
Professor (Food Technologist), IFAS (1965-1972).

MATURO, FRANK J.S. JR., Ph.D. (Duke University)
Professor of Zoology; Director of University of Florida Marine Laboratory (1958-1970).

MAUDERLI, WALTER, D.Sc. (University of Zurich)
Professor of Radiation Physics (1960-1965).

MAULDIN, RICHARD DANIEL, Ph.D. (University of Texas)
Associate Professor of Mathematics (1969-1975).

MAUTZ, ROBERT BARBEAU, LL.B. (Yale University) LL.D. (Jacksonville University) L.H.D. (University of Florida)
Regent's Professor of Law and Higher Education (1950-1975).

MAXWELL, FOWDEN G., Ph.D. (Kansas State University)
Professor and Chairperson, Entomology and Nematology, IFAS (1976-1976).

MAY, FRANK PIERCE, Ph.D. (University of Florida)
Professor of Chemical Engineering (1955-1969).

MAYBERRY, MAURICE E., B.S.B.A.
Director, Career Planning and Placement Center (1953-1953).

MAYER, MARION SIDNEY, Ph.D. (Texas A&M University)
Associate Professor (Associate Entomologist), IFAS, USDA (1966-1973).

MAZIS, MICHAEL, Ph.D. (Pennsylvania State University)
Associate Professor of Marketing (1971-1974). •

MCALISTER, LYLE NELSON, Ph.D. (University of California)
Professor of History (1950-1963).

MCCACHREN, JAMES ROLAND, M.A.
Assistant Professor of Physical Education (1946-1946).

MCCALL, GAIL ELAINE, M.A. (Washington State University)
Assistant Professor of Recreation (1973-1973).

MCCALL, PETER T., M.Ed. (University of Florida)
Teacher, P.K. Yonge (1970-1970).

MCCAREY, BERNARD E., Ph.D. (Marquette University)
Assistant Professor of Ophthalmology (1973-1973).

MCCARTHY, KEVIN MICHAEL, Ph.D. (Univ. of North Carolina)
Associate Professor of English and Linguistics (1969-1974).

MCCAULLEY, MARY HAWLEY, Ph.D. (Temple University)
Assistant Professor of Clinical Psychology and Psychology (1964-1964).

MCCLAVE, JAMES THOMAS, Ph.D. (University of Florida)
Assistant Professor of Statistics (1971-1971).

MCCLOUD, DARELL EDISON, Ph.D. (Purdue University)
Professor, Agronomy Department, IFAS (1948-1965). •

MCCOLLOUGH, W. ANDREW, Ph.D. (University of Florida)
Associate Professor of Finance (1969-1976).

MCCONNELL, DENNIS BROOKS, Ph.D. (University of Wisconsin)
Associate Professor (Assistant Ornamental Horticulturist) IFAS, (1970-1971).

MCCORMACK, GUY L., M.S. (Ohio State University)
Instructor of Occupational Therapy (1975-1975).

MCCORMICK, WILLIAM C., Ph.D. (University of Wisconsin)
Associate Professor of Pharmacy (1973-1976).

MCCORNACK, ANDREW ADAM, M.S. (University of
Adjunct Associate Professor (Associate Horticulturist), IFAS DC, AREC—Lake Alfred (1952-1969).

MCCOWN, JACK THOMAS, Ph.D. (University of North Carolina)
Professor and Associate Dean for Extension, IFAS, (1951-1970).

MCCOY, CLAY W., Ph.D. (University of California)
Associate Professor of Entomology, Agricultural Research and Education Center, Lake Alfred, IFAS (1972-1972).

MCCOY, FRANCIS TYRONE, J.D.
Professor of Law (1955-1970).

MCCOY, RANDOLPH EDWARD, Ph.D. (Cornell University)
Assistant Professor (Assistant Plant Pathologist), IFAS, Agricultural Research Center, Ft. Lauderdale (1971-1971).

MCCOY, TERRY L., Ph.D. (University of Wisconsin)
Assistant Director of the Center For Latin American Studies and Adjunct Assistant Professor of Sociology (1975-1975).

MCCREA, BRIAN R., Ph.D. (University of Virginia)
Assistant Professor of English (1976-1976).

MCCUNE, SHANNON, Ph.D. (Clark University)
Professor of Geography (1969-1969)

MCDAVIS, RODERICK J., Ph.D. (University of Toledo)
Assistant Professor of Education (1974-1974).

MCDONALD, CHARLES L., Ph.D. (Michigan State University) C.P.A. (Oklahoma)
Assistant Professor of Accounting (1974-1974).

MCDONALD, NANCY F., M.S.W. (University of North Carolina)
Associate Professor of Social Work in Psychiatry (1960-1969).

MCDOWELL, LEE R., Ph.D. (Washington State University)
Assistant Professor (Assistant Animal Nutritionist), Tropical Animal Science, IFAS (1971-1971).

MCFADYEN, DONALD CARL, M.Ed. (University of Florida)
Instructor, P.K. Yonge Laboratory School (1966-1970).

MCFARLANE, JAMES, B.Des.
Program Director and Associate Professor of Interior Design (1958-1973).

MCGHEE, MAX B., Ph.D. (Ohio State University)
Assistant Professor of Agriculture and Extension Education, IFAS (1975-1975).

MCGUIGAN, JAMES E., M.D. (St. Louis School of Medicine)
Professor and Chairperson, Department of Medicine and Chief of Gastroenterology (1969-1976).

MCGUINESS, DAVID M., Ph.D. (University of Minnesota)
Assistant Professor of History (1976-1976).

MCGUIRE, PETER, Ph.D. (University of North Carolina)
Assistant Professor of Veterinary Medicine, Biochemistry and Molecular Biology (1975-1975).

MCGUIRE, VINCENT, Ed.D. (University of Florida)
Professor of Education (1947-1960). *

MCHARD, JAMES ALVAH, Ph.D. (University of Florida)
Adjunct Assistant Professor (Assistant Chemist), IFAS, DC, AREC —Lake Alfred (1974-1974).

MCKANN, MICHAEL RAYSOP, AMLS
Librarian and Chairperson of Acquisitions Department (1970-1970).

MCKEE, VERNON C., Ph.D. (Iowa State University)
Associate Professor (Director of Planning and Business Affairs), IFAS (1969-1969).

MCKENZIE, MICHAEL W., M.S.P. (University of Florida)
Assistant Professor of Pharmacy and Nursing (1971-1972).

MCKERNS, KENNETH WILSHIRE, Ph.D. (McGill University)
Professor of Obstetrics and Gynecology (1960-1965).

MCKINNEY, THEARON THOMAS, Ph.D. (University of Georgia)
Assistant Professor (Extension 4-H Youth Specialist), IFAS (1975-1975).

MCKNIGHT, STEPHEN ALEN, Ph.D. (Emory University)
Acting Chairperson and Assistant Professor of Humanities (1972-1972).

MCLAUGHLIN, JOHN ROSS, Ph.D. (University of California, Riverside)
Assistant Professor (Assistant Entomologist), USDA, IFAS (1973-1973).

MCLEAN, JAMES P., M.B.A. (University of Florida)
Assistant Professor of Community Health and Family Medicine and Associate Dean for Administration (1972-1975).

MCMAHON, ELIZABETH A., Ph.D. (University of Florida)
Visiting Assistant Professor (1975-1975).

MCMILLAN, ROBERT THOMAS, JR., Ph.D. (Washington State Univ.)
Associate Professor (Associate Plant Pathologist), IFAS, Agricultural Research and Education Center, Homestead (1967-1973).

MCMILLIN, MARVIN R , Ed.D. (University of Florida)
Associate Professor of Education and Assistant Dean, College of Education (1970-1975).

MCNAB, BRIAN KEITH, Ph.D. (University of Wisconsin)
Professor of Zoology (1961-1971). *

MCNAIRY, ALICE HALL, M.Ln.
Librarian and Assistant Chairman of Acquisitions Department (1953-1973).

MCPHERSON, WOODROW WILSON, Ph.D. (Harvard University)
Graduate Research Professor, Food and Resource Economics Department, IFAS, (1962-1962).

MCQUOWN, O. RUTH, Ph.D. (University of Florida)
Professor of Political Science and Associate Dean, of Arts and Sciences (1961-1974).

MCRAE, JOHN MALCOLM, M.Arch.
Associate Professor of Architecture (1967-1975).

MCVEIGH, KEVIN JOSEPH, Ph.D. (Rutgers University)
Assistant Professor (Assistant Agronomist), IFAS, Agricultural Research and Education Center, Quincy (1974-1974).

MEAD, FRANK WALDRETH, M.S. (Ohio State University)
Associate Professor (Associate Entomologist), IFAS, DPI (1966-1973).

MEALIEA, WALLACE L., M.S., Ph.D. (University of Missouri)
Associate Professor of Basic Dental Sciences, College of Dentistry (1975-1975).

MEDINA, JOSE E., D.D.S. (University of Maryland)
Professor of Operative Dentistry and Assistant Vice President for Facilities Planning and Operations, J. Hillis Miller Health Center (1967-1976).

MEEK, PHYLLIS, M., Ed.D. (University of Florida)
Associate Dean for Student Services and Assistant Professor of Education (1966-1973).

MEHTA, ASHISH J., Ph.D. (University of Florida)
Assistant Professor of Coastal and Oceanographic Engineering Laboratory, Assistant Professor, Engineering Sciences (1974-1974).

MELTON, GAIL W., B.A. (Florida International University)
Assistant in Faculty Relations and Special Assistant to the President for Faculty Relations (1975-1975).

MELVILLE, JOEL GEORGE, Ph.D. (Pennsylvania State University)
Assistant Professor of Civil Egineering (1976-1976).

MENDELOW, ABRAHAM L., M.D., B.Ch. (University of Witwatersrand)
Assistant Professor of Orthopaedic Surgery (1976-1976).

MENDENHALL, SUE ELLEN, M.S. (Indiana State University)
Teacher, P.K. Yonge Laboratory School (1972-1972).

MENDENHALL, WILLIAM, Ph.D. (North Carolina State College)
Chairperson and Professor, Statistics Department, Arts and Sciences; Statistician, IFAS (1963-1963).

MENDENHALL, WILLIAM R., Ph.D. (Fla. State University)
Associate Dean for Student Services and Assistant Professor of Education and Sociology (1973-1973).

MENKS, FEROL, M.S. (Ohio State University)
Assistant Professor of Occupational Therapy (1973-1973).

MERCER, CECIL DUKE, Ed.D. (University of Virginia)
Assistant Professor of Education (1974-1974).

MERIMEE, THOMAS J., M.D. (University of Louisville)
Professor and Chief of Endocrinology, VAH (1974-1975).

MERKEL, EDWARD PAUL, B.S.
Assistant Professor (Assistant Entomologist) U.S. Forest Service (1966-1966).

MERRILL, JOHN ELLSWORTH, Ph.D. (Princeton University)
Visiting Professor of Astronomy (1969-1969).

MERRITT, HARRY C., JR., M.S.
Professor of Architecture (1960-1973).

MESA, ROSA QUINTERO, M.S.L.S.
Librarian, Documents (1961-1976).

MESCH, BARRY, Ph.D. (Brandeis University)
Associate Professor of Religion (1969-1975).

MESSINA, WILLIAM JAMES, M.S. (University of Georgia)
Director of Program Development IFAS (1973-1976).

METCALF, JOSEPH F., Ph.D. (Florida State University)
Assistant Professor of Ophthalmology (1974-1974).

MEURLOTT, K. B., M.S.
Assistant Professor and Director, Division of Information and Publications Services.

MEYER, DENNIS J., D.V.M. (University of Minnesota)
Assistant Professor, College of Veterinary Medicine (1976-1976).

MEYER, MERLE E., Ph.D. (University of Washington)
Professor and Chairperson of Psychology and Professor of Clinical Psychology (1972-1972).

MEYERHOLZ, GEORGE WILLIAM, D.V.M. (Iowa State Unversity)
Professor (Extension Veterinarian), College of Veterinary Medicine-IFAS (1968-1974).

MEYERS, HARRY GEORGE, Ph.D. (University of Florida)
Associate Professor (Associate Extension Ornamental Horticulturist), IFAS (1966-1976).

MIALE, THOMAS D., M.D. (University of Pittsburgh)
Assistant Professor of Pediatrics and Chief of Hematology and Oncology (1973-1975).

MICHA, DAVID ALLAN, Ph.D. (Uppsala University)
Professor of Chemistry and Physics (1969-1974).

MICHAEL, MAX, M.D. (Harvard University)
Professor of Medicine and Director for Jacksonville Hospital Educational Programs (1959-1973).

MICKLE, STEPHAN P., J.D.
Assistant Professor of Law (1971-1971).

MIDCAP, LUCI E., M.A.
Visiting Assistant Professor of Journalism and Communications (1976-1976).

MIDCAP, JAMES THOMAS, Ph.D. (Kansas State University)
Assistant Professor (Extension Ornamental Horticulturist), IFAS (1975-1975).

MILAM, JAMES R., M.S. (University of Florida)
Assistant in Microbiology & Cell Science, Arts and Sciences (1975-1975).

MILANICH, JERALD T., Ph.D. (University of Florida)
Assistant Curator of Archaeology, Florida State Museum and Assistant Professor of Anthropology (1972-1975).

MILD, FRANCES JANE, Ed.S.
Counselor Coordinator, DSSSP.

MILES, RICHARD DAVID, Ph.D. (Purdue University)
Assistant Professor (Assistant Poultry Nutrionist), IFAS, (1976-1976).

MILLER, ALAN B., M.D. (University of Pittsburgh)
Assistant Professor of Medicine, JHEP (1973-1973).

MILLER, B. LYNN, M.D. (University of Chicago)
Assistant Professor of Pediatrics (1967-1970).

MILLER, CLEVE DOUGLAS, LL.M. (New York University)
Associate Professor of Law (1973-1974). *

MILLER, D. GARY, Ph.D. (Harvard University)
Associate Professor of Classics and Linguistics (1972-1976).

MILLER, DAMON, M.S. (Iowa State University)
Assistant Professor (Assistant State 4-H Youth Development Specialist) FAMU, IFAS (1970-1972).

MILLER, GEORGE H., JR., M.D. (University of Pennsylvania)
Professor of Surgery and Chief, Division of Urology, VAH; Chief of Staff, VA Hospital (1958-1964).

MILLER, HOWARD N., Ph.D. (University of California)
Professor (Plant Pathologist) Institute of Food and Agricultural Sciences (1948-1955).

MILLER, J.D., Ph.D. (Purdue University)
Assistant Professor (Assistant Plant Geneticist), USDA, IFAS, Agricultural Research & Education Center, Belle Glade (1971-1971).

MILLER, JAMES W., JR., M.S.F. (University of Florida)
Professor (Logging and Sawmilling), IFAS (1936-1951).

MILLER, JOHN WILLIAM, Ph.D. (University of Florida)
Associate Professor (Plant Pathologist), DPI, IFAS (1968-1970).

MILLER, ROBERT H., M.D. (University of Florida)
Associate Professor of Pediatrics, JHEP (1968-1973).

MILLER, WILLIAM M., Ph.D. (Pennsylvania State University)
Assistant Professor (Assistant Agricultural Engineer), IFAS AREC—Lake Alfred (1975-1975).

MILLIMAN, JEROME W., Ph.D. (U. of Calif. at Los Angeles)
Professor of Economics and Urban and Regional Planning (1976-1976).

MILLION, RODNEY R., M.D. (Indiana Medical School)
Professor of Radiology (1964-1969).

MILLS, JAMES E., M.S.E.E. (Georgia Inst. Tech)
Systems Coordinator (1974-1976).

MILLS, JON L., J.D. (University of Florida)
Associate in Law Research (1972-1972).

MILLSAPS, KNOX, Ph.D. (California Institute of Technology)
Professor of Engineering Sciences and Chairperson of the Department (1973-1973).

MILNER, GILBERT C., III, M.D. (University of Texas Southwestern)
Assistant Professor of Psychiatry (1973-1973).

MILTON, JAMES EDMUND, Ph.D. (University of Florida)
Associate Engineer in Engineering Sciences; Resident Director, Eglin AFB (1966-1973).

MILTON, RUTH LOUISE, M.S.
Associate Professor (Associate State 4-H Club Agent), IFAS, (1952-1966). *

MINCEY, WILBUR FRANKLIN
Assistant Professor (Assistant Meteorologist), IFAS, NWS, Agricultural Research Center, Lakeland (1959-1959).

MINER, JAMES A., M.D. (Indiana University)
Instructor of Medicine (JHEP) (1975-1975).

MINGO, GWENUEL, W., M.Ed.
Director, DSSSP and Instructor (1974-1975).

MINNICK, DANNY RICHARD, Ph.D. (University of Florida)
Associate Professor (Associate Entomologist), IFAS (1971-1976).

MIRANDA, SALVADOR, M.S.L.S. (Florida State University)
Assistant Librarian, Acquisitions (1976-1976).

MISBIN, ROBERT I., M.D. (John Hopkins University)
Assistant Professor of Medicine (1976-1976).

MISHOE, JOHN WAYNE, Ph.D. (North Carolina State University)
Assistant Professor (Assistant Agricultural Engineer), IFAS, Agricultural Research and Education Center, Belle Glade (1974-1974).

MISLEVY, PAUL, Ph.D. (Penn State University)
Assistant Professor (Assistant Agronomist), IFAS, Agricultural Research Center, ONA (1971-1971).

MITCHELL, DAVID JAMES, Ph.D. (University of California)
Associate Professor (Associate Plant Pathologist), IFAS (1971-1976).

MITCHELL, EVERETT R., Ph.D. (North Carolina State Univ.)
Professor of Entomology USDA, IFAS (1971-1971).

MITCHELL, VERVIL LOUENE, M.S.
Associate Professor (Extension Home Mgt. and Family Economics Specialist), IFAS (1965-1973).

MITRANI, JOSE DAVID, ENGR. (University of Florida)
Assistant Professor of Civil Engineering (1976-1976).

MODELL, JEROME H., M.D. (University of Minnesota)
Professor and Chairperson, Departmen of Anesthesiology (1969-1969).

MOFFAT, ROBERT C.L., LL.M. (University of Sydney)
Professor of Law (1966-1971).

MOHAMMED, HAMDI A., D.D.S., M.S.D. (U. of Alexandria), M.Sc.D. (Northwestern U.)., Ph.D. (U. of Michigan)
Professor and Chairman of Dental Biomaterials, College of Dentistry (1974-1974).

MOJADIDI, QUADATULLAH, M.D. (Kabul University)
Clinical Associate Professor of Obstetrics and Gynecology (JHEP) (1971-1971).

MON BONNIE E., M.N. (University of Florida)
Instructor, College of Nursing, (1976-1976).

MONIF, GILLES, R.G., M.D. (Boston University)
Associate Professor of Obstetrics and Gynecology (1968-1971).

MONROE, JAMES HOWARD, Ph.D. (Florida State University)
Assistant Professor of French and Foreign Language Education (1973-1973).

MONTELARO, JAMES, Ph.D. (University of Florida)
Professor (Extension Vegetable Specialist), IFAS (1952-1965).

MONTGOMERY, HOYLE FLEMING, Jr., M.A. in L.S.
Associate Librarian, Reference and Bibliography (1962-1970).

MONTI, LAURA VIRGINIA, Ph.D. (Catholic Univ., Buenos Aires)
Librarian, Department of Rare Books and Manuscripts (1957-1973).

MOONEY, ERNEST GORDON, M.P.E.
Assistant Professor of Physical Education (1945-1956).

MOONEY, MICHAEL E., Ph.D. (Univ. of Southern California)
Visiting Assistant Professor (1975-1975).

MOORE, ALAN CONINGSBY, M.Ed.
Associate Professor of Physical Education (1953-1969).

MOORE, CLARENCE A., Ph.D. (University of Alabama)
Professor and Chairperson, Department of General Physical Education (1971-1971).

MOORE, EDWIN L., Ph.D. (Massachusetts State College)
Adjunct Professor (Chemistry) IFAS, DC, AREC—Lake Alfred (1951-1957).

MOORE, G. ALEXANDER, Jr., Ph.D. (Columbia University)
Associate Professor of Anthropology (1969-1970).

MOORE, G. PAUL, Ph.D. (Northwestern University)
Professor of Speech (1961-1961).

MOORE, JOHN EDWARD, Ph.D. (University of Ohio)
Professor (Animal Nutritionist), IFAS (1961-1973).

MOORE, JUDY L., M.N. (University of Florida)
Assistant Professor, College of Nursing (1970-1972) *

MOORE, ROBERT D., B.S.B.A.
Athletic Business Manager (1966-1973).

MOORE, THERAL ORVIS, Ph.D. (University of Missouri)
Associate Professor of Mathematics (1955-1966).

MOORE, THOMAS H., J.D. (University of Florida)
Assistant Dean and Instructor (1974-1974).

MOORE, WILLIAM H., M.S. (Auburn University)
Adjunct Assistant Professor, USDA Forest Service, IFAS (1976-1976).

MORELAND, ALVIN F., D.V.M. (University of Georgia)
Professor of Comparative Medicine and Director of Animal Research (1963-1972).

MORGAN, ALICE ESTHER, M.Ed. (University of North Carolina)
Assistant Professor of Education (1963-1968).

MORGAN, CHARLES FREDERICK, M.Arch.
Assistant Professor of Architecture (1976-1976).

MORGAN, JAMES I., Ed.D. (University of Florida)
Counseling Psychologist, University Counseling Center, Assistant Professor of Behavioral Studies (1967-1967).

MORGAN, MARGARET K., Ph.D. (University of Kentucky)
Associate Professor (1972-1976).

MORGAN, PHILIP BONE, Ph.D. (Kansas State College)
Professor of Entomology and Entomologist, USDA Entomology Research Laboratory (1965-1965).

MORGAN, WILLIAM H., Ph.D. (University of Florida)
Director, Water Resources Research Center, Professor of Environmental Engineering Sciences and Professor of Geography (1957-1973).

MORGENSTERN, LINDA S., M.S. (State University of College of Buffalo)
Visiting Assistant Professor of Physical Therapy (1975-1975).

MORRILL, J. GLENN, Ed.D. (Cornell University)
Assistant Professor, Agriculture and Extension Education, IFAS (1971-1971).

MORRILL, OLIVE LEMON, Ed.D. (DACCA University)
Assistant Dean and Professor, Home Economics Program, and Chairperson Home Economics Department, IFAS (1970-1970).

MORRIS, CHRISTINE M., M.Ed.
Teacher, P. K. Yonge Laboratory School (1972-1972).

MORRIS, KEN, M.Ed. (University of Florida)
Coordinator, Department of Extended Services, Division of Continuing Education, Director of the School Service Center, College of Education (1965-1975).

MORRIS, MILTON E., Ph.D. (University of Wisconsin)
Professor and Chairperson, Editorial, IFAS (1976-1976).

MORRISON, CLAYTON ALLISON, M.S.E. (University of Florida)
Associate Professor of Mechanical Engineering (1962-1976).

MORRISON, JAMES F., Ph.D. (Stanford University)
Associate Professor of Political Science (1966-1971).

MORSE, RICHARD HUGH, M.Arch.
Associate Professor of Architecture (1967-1973).

MORTENSEN, JOHN ALAN, Ph.D. (Cornell University)
Associate Professor (Associate Geneticist), IFAS, Agricultural Research Center, Leesburg (1960-1968).

MOSCOVICI, CARLO, Ph.D. (Rome)
Professor of Pathology and Immunology and Medical Microbiology, VAH (1967-1973).

MOSS, HAROLD GENE, Ph.D. (University of Michigan)
Associate Professor of English, Associate Dean of University College and Director of Sponsored Research (1969-1975).

MOTT, GERALD OAKLEY, Ph.D. (Cornell University)
Professor of Agronomy, IFAS (1968-1968).

MOULDER, PETER V., M.D. (University of Chicago)
Professor of Surgery and Chief of Thoracic and Cardiovascular Surgery, VAH (1973-1973).

MOUNT, GARY ARTHUR, Ph.D. (Oklahoma State University)
Associate Professor (Associate Entomologist), IFAS, USDA (1966-1973).

MOXLEY, CLISBY CAREY, Ph.D. (University of Kentucky)
Professor, Food and Resource Economics Department, IFAS (1955-1961).

MOYE, HUGH ANSON, Ph.D. (University of Florida)
Associate Professor (Associate Chemist), IFAS (1965-1971).

MOZER, JAMES E., D.D.S. (Baylor University)
Assistant Professor of Operative Dentistry, College of Dentistry (1974-1974).

MUELLER, PAUL ALLEN, Ph.D. (Rice University)
Assistant Professor of Physical Sciences and Geology (1973-1973).

MUGA, MARVIN LUIS, Ph.D. (University of Texas)
Professor of Chemistry (1960-1976).

MULL, LEON EDMUND, Ph.D. (Iowa State University)
Professor (Microbiologist), IFAS (1940-1956).

MULLEN, RUSSELL E., Ph.D. (Purdue University)
Assistant Professor of Agronomy IFAS (1976-1976).

MULLIN, ROBERT SPENCER, Ph.D. (University of Minnesota)
Professor (Plant Pathologist), IFAS (1958-1958).

MULLINS, JOHN THOMAS, Ph.D. (University of North Carolina)
Professor of Botany, IFAS and Associate Chairperson of the Department of Botany (1959-1973).

MULLIS, ELVEN D., M.S. ((University of Arkansas)
Captain, U.S. Air Force, Assistant Professor of Aerospace Studies (1974-1974).

MUNDY, BELVEY WASHINGTON, Ph.D. (University of Indiana)
Associate Professor of Physical Sciences (1955-1956).

MUNIZ, CARLOS E., M.D. (University of Havana)
Associate Professor of Psychiatry and Pharmacy (1969-1975).

MUNOZ, CARLOS E., M.D. (University of San Carlos)
Instructor of Medicine (JHEP) (1974-1974).

MUNRO, ROBERT J., J.D. (University of Iowa)
Associate Law Librarian (1975-1975).

MUNSELLE, WILLIAM G., Ph.D. (Stanford University)
Assistant Professor of Political Science (1972-1974).

MUNSON, EDWIN S., M.D. (University of Tennessee)
Professor of Anesthesiology (1971-1971).

MUNSON, JOHN B., Ph.D. (Univesity of Rochester)
Associate Professor and Graduate Coordinator of Neuroscience and Associate Professor of Physiology (1969-1974).

MUNYER, EDWARD ARNOLD, M.S.
Associate Curator in Education, Florida State Museum (1970-1975).

MURPHEY, MILLEDGE, Ph.D. (Oklahoma State University)
Professor of Entomology, IFAS (1947-1965).

MURPHREE, ALBERT ALEXANDER, B.A. (Oxford University)
Associate Professor of English (1934-1955).

MURPHY, EDMUND J., M.D. (University of Nebraska)
Assistant Professor of Anesthesiology (1976-1976).

MURPHY, LIZETTE L., M.S. (University of Alabama)
Associate Professor (Extension Food Utilization Specialist), IFAS (1970-1975).

MURPHY, THOMAS FROST, M.B.A. (California at Berkeley)
Director of Business Associates College of Business Administration (1969-1969).

MURRAY, ERNEST DON, M.F.A., M.Ed.
Associate Chairperson and Associate Professor of Humanities (1968-1974).

MUSCHLITZ, EARLE EUGENE JR., Ph.D. (Pennsylvania State University)
Professor of Chemistry and Chairperson of Department (1951-1973).

MUSGRAVE, CAROL ANN, Ph.D. (Oregon State University)
Assistant Professor (Assistant Entomologist), IFAS, (1974-1974).

MUTH, EGINHARD JOERG, Ph.D. (Polytechnic Institute of Brooklyn)
Professor of Industrial and Systems Engineering (1965-1974).

MUTHARD, JOHN EDWARD, Ph.D. (Ohio State University)
Head, Rehabilitation Research Institute and Professor of Education and Rehabilitation Counseling (1967-1968).

MUTHER, THOMAS F., Ph.D. (University of Leeds)
Associate Professor of Pharmacology and Therapeutics (1963-1974).

MYERS, FOREST EARL, M.Ag. (University of Florida)
Professor (Assistant to the Dean), IFAS, (1948-1973). *

MYERS, GARDINER, Ph.D. (University of California at Berkeley)
Associate Professor of Chemistry (1965-1972).

MYERS, JULIAN MOSTELLA, M.S.A. (University of Florida)
Professor (Agricultural Engineer), IFAS (1947-1960).

MYERS, LESTER H., Ph.D. (Purdue University)
Associate Professor, Food and Resource Economics Department, DC, IFAS (1968-1968).

MYERS, ROBERT BROWN, Ed.D. (University of Florida)
Professor and Chairperson of Secondary Education (1953-1975). *

MYHRE, DONALD LAVERNE, Ph.D. (University of Wisconsin)
Professor and Center Director, Agricultural Research and Education Center, Belle Glade, IFAS (1975-1975).

MYRICK, ROBERT DEWAYNE, Ph.D. (Arizona State University)
Professor of Education (1967-1972).

NAGAN, WINSTON PERCIVAL, LL.M. (Duke University)
Associate Professor of Law (1974-1974). *

NATION, JAMES LAMAR, Ph.D. (Cornell University)
Professor of Entomology (1960-1972).

NATTRESS, JOHN ANDREW, D.E. (Embry-Riddle University)
Professor of Industrial and Systems Engineering; Associate Dean of the College of Engineering (1957-1965).

NATTRESS, MARGARET P., M.A. (Northwestern University)
Associate Professor of Speech (1969-1975).

NAYAR, JAI K., Ph.D. (University of Illinois)
Associate Professor (Associate Entomologist), IFAS (1975-1975).

NAYLOR, JOHN GEOFFREY, M.F.A.
Associate Professor of Art (1959-1968).

NEAL, FRED CARLTON, D.V.M., M.S. (Texas A&M University)
Associate Professor (Associate Veterinarian), College of Veterinary Medicine—IFAS (1962-1966).

NEALE, JAMES RALPH, JR., Ed.D. (Columbia University)
Associate Professor of English (1946-1963).

NEEL, PERCY LANDRETH, IV, Ph.D. (University of California)
Assistant Professor (Assistant Ornamental Horticulturist), IFAS, Agricultural Research Center, Ft. Lauderdale (1974-1974).

NEHILEY, JAMES MICHAEL, M.A.J.C. (University of Florida)
Assistant Professor (Extension Communication Specialist), IFAS (1974-1974).

NEILSON, JOHN TAYLOR, Ph.D. (University of Glasgow)
Associate Professor (Associate Parasitologist), College of Veterinary Medicine-IFAS (1968-1973).

NELL, TERRIL ARNOLD, Ph.D. (Michigan State University)
Assistant Professor (Ornamental Horticulturist) (1976-1976).

NELSON, CHARLES WARREN, Ph.D. (University of Maryland)
Professor of Mathematics and Education (1966-1974).

NELSON, EDWARD W., M.D. (Tulane University)
Assistant Professor of Medicine (1974-1974).

NELSON, MARIE D., Ph.D. (University of Oregon)
Assistant Professor of English (1974-1974).

NELSON, ROBERT M., JR., M.D. (University of Washington)
Assistant Professor of Pediatrics (1976-1976).

NELSON, WALLACE MARTIN, Ph.D. (University of Florida)
Associate Professor of Social Sciences (1961-1967). *

NERIKAR, VASANT N., M.Sc. (Agri), M.L.A.
Assistant Professor in Landscape Architecture (1973-1973).

NETZLOFF, MICHAEL L., M.D. (University of Florida)
Assistant Professor of Pediatrics and Director for Phenyl-Kentonuria Program (1973-1975).

NEVILL, D.D., Ph.D. (University of Florida)
Assistant Professor of Psychology (1971-1971).

NEVILL, GALE ERWIN, JR., Ph.D. (Stanford University)
Professor of Engineering Sciences (1964-1968) *

NEVIS, ARNOLD HASTINGS, M.D. (Harvard University), Ph.D. (Massachusetts Institute of Technology)
Professor of Electrical Engineering and Biophysics (1960-1971).

NEW, MELVYN, Ph.D. (Vanderbilt University)
Professor of English (1966-1976).

NEW, REBECCA S., M.E.D. (University of Florida)
Teacher, P.K. Yonge Laboratory School (1972-1972).

NEWCOMB, ARTHUR PERRY, JR., Ph.D. (Stanford University)
Associate Professor of Education (1963-1963).

NEWELL, JOHN M., Ph.D. (University of Texas)
Professor of Education and Assistant Dean of the Graduate School (1967-1973).

NEWHALL, WILLIAM FREEMAN, Ph.D. (Bryn Mawr University)
Professor (Biochemist), IFAS, Citrus Experiment Station, Agricultural Research and Education Center (1952-1967).

NEWMAN, ARTHUR J., Ed.D. (Indiana University)
Associate Professor of Education (1968-1973).

NEWTON, JANETTA W., B.D.S. (Edinburgh University), D.M.D. (University of Alabama-Birmingham)
Assistant Professor of Oral Medicine; College of Dentistry (1974-1974).

NEYLANDS, NANCY A., B.S. (Medical College of Georgia)
Director, Medical Records Service, Shands Teaching Hospital (1976-1976).

NICHELSON, JACK C. M.F.A.
Associate Professor of Art (1961-1970).

NICHOLS, MARY A., M.S.N. (University of Alabama)
Assistant Professor, College of Nursing (1974-1974).

NICHOLS, WILMER W., Ph.D. (University of Alabama)
Associate Professor of Medicine and Assistant Professor of Physiology (1974-1974).

NICKENS, JOHN MARCUS, Ph.D. (Florida State University)
Assistant Professor of Education (1971-1971).

NICOL, DAVID, Ph.D. (Stanford University)
Professor of Geology and Zoology (1965-1972).

NIDDRIE, DAVID LAWRENCE, Ph.D. (University of Manchester, England)
Professor of Geography (1966-1966).

NIGG, HERBERT NICHOLAS, Ph.D. (University of Illinois)
Assistant Professor (Assistant Entomologist), IFAS, Agricultural Research and Education Center, Lake Alfred (1974-1974).

NILES, JAMES A., Ph.D. (University of California-Davis)
Assistant Professor (Assistant Agricultural Economist), Food and Resource Economics Department, IFAS (1973-1973).

NIMS, JOHN FREDERICK, Ph.D. (University of Chicago)
Professor of English (1973-1973).

NOFFSINGER, JAMES ROBERT, M.S. (Florida State University)
Assistant Professor (Assistant in Meteorology), IFAS, NWS, Agricultural Research Center, Lakeland (1974-1974).

NOONAN, KENNETH D., Ph.D. (Princeton University)
Assistant Professor of Biochemistry and Molecular Biology (1973-1973).

NOONAN, NORINE E., Ph.D. (Princeton University)
Assistant Professor, College of Veterinary Medicine (1976-1976).

NORDEN, ALLAN JAMES, Ph.D. (Iowa State University)
Professor of Agronomy, IFAS, (1958-1971). *

NORDLIE, FRANK GERALD, Ph.D. (University of Minnesota)
Professor of Zoology (1961-1976).

NORDSTEDT, ROGER ARLO, Ph.D. (Ohio State University)
Associate Professor (Assistant Agricultural Engineer), IFAS (1969-1975).

NORMANN, SIGURD J., Ph.D., M.D. (University of Washington)
Associate Professor and Chief of Cardiac Pathology (1968-1975).

NORTHRUP, JAMES CLEMENT, Ed.D. (University of Florida)
Assistant Professor (Extension 4-H Youth Specialist), IFAS (1974-1974).

NOTELOVITZ, MORRIS, M.D. (University of Witwatersrand)
Assistant Professor in Obstetrics and Gynecology (1974-1976).

NOYES, WARD D., M.D. (University of Rochester)
Professor and Chief of Hematology, VAH (1961-1975).

NUERNBERGER, ANN B., M.Ed. (University of Florida)
Assistant in Education (Project Manager) (1974-1974).

NUETZEL, WILLIAM ANDREW, M.S.
Associate Professor of Health Education (1959-1969).

NUMMELA, ERIC CARL, Ph.D. (Tulane University)
Assistant Professor of Mathematics (1971-1971).

NUNEZ, THERON ALDINE, JR., Ph.D. (University of California)
Associate Professor of Anthropology (1963-1968).

NUNNERY, MICHAEL YATES, Ed.D. (University of Tennessee)
Professor of Education (1968-1968).

NUSS, R. C., M.D. (Jefferson Medical School)
Associate Professor of Obstetrics and Gynecology (JHEP) (1972-1972).

NYE, DAVID J., Ph.D. (University of Pennsylvania)
Assistant Professor of Insurance (1971-1971).

O'BANNON, JOHN HORATIO, Ph.D. (Arizona State University)
Professor (Nematologist), USDA, IFAS (1968-1968).

OBENZA, NELIA J., M.D. (Cebu Institute of Medicine)
Instructor of Pediatrics (JHEP) (1975-1975).

OBERLANDER, HERBERT, Ph.D.
Associate Professor (Associate Physiologist), USDA, IFAS (1971-1971).

OBERLIN, LYNN C., Ed.D. (Michigan State University)
Associate Professor of Education (1970-1970).

OBLINGER, JAMES L., Ph.D. (Iowa State University)
Associate Food Microbiologist, IFAS (1972-1972).

O'BRIEN, CHARLES WILLIAM, Ph.D. (Univ. of Calif., Berkeley)
Associate Professor (Associate Entomologist), (FAMU), IFAS (1973-1973).

O'BRIEN, THOMAS W., Ph.D. (Marquette University)
Associate Professor of Biochemistry and Molecular Biology (1966-1972).

O'CONNELL, JOHN PAUL, Ph.D. (University of California)
Professor of Chemical Engineering (1966-1974).

O'CONNOR, JOHN ARTHUR, M.A.
Associate Professor of Art (1969-1975).

O'CONNOR, MALLORY A., M.F.A.
Instructor of Art (1973-1975).

OCUMPAUGH, WILLIAM ROBERT, Ph.D. (University of Missouri)
Assistant Research Scientist, Agronomy and International Programs, IFAS (1975-1975).

ODUM, HOWARD THOMAS, Ph.D. (Yale University)
Graduate Research Professor of Environmental Engineering Sciences (1970-1970).

OHANIAN, MIHRAN JACOB, Ph.D. (Rensselaer Polytechnic Institute)
Professor of Nuclear Engineering Sciences and Chairperson of th Department (1963-1970).

OHRN, NILS YNGVE, Ph.D. (Uppsala)
Professor of Chemistry and Physics (1966-1973). *

OLDACRE, SHERLEEN LOUISE, B.S. (University of Florida)
Assistant in Entomology, IFAS (1973-1973).

O'LEARY, JAMES P., M.D. (University of Florida)
Associate Professor of Surgery (1972-1975).

OLIVER, CALVIN CLEET, Ph.D. (Purdue University)
Professor of Mechanical Engineering and Professor of Engineering Sciences (1967-1967).

OLIVER, CLIFTON, JR., M.A.
Associate Professor of Management (1946-1959).

OLIVER, JOHN PARKER, Ph.D. (University of California, Los Angeles)
Assistant Professor of Astronomy (1970-1970).

OLIVER-SMITH, ANTHONY RICHARD, Ph.D. (Indiana University)
Assistant Professor of Social Sciences and Anthropology; Assistant Curator of Ethnology (1972-1973).

OLMSTED, PATRICIA PALMER, M.A. (Columbia University)
Associate in Education (1969-1974).

OLSEN, ROBERT WINTHROP, B.S. (M.I.T.)
Professor (Biochemist) IFAS, AREC—Lake Alfred Education Center, Lake Alfred, (1947-1947).

OLSON, GERALD A., M.S. DVM (University of Florida)
Associate Professor of Microbiology and Cell Science, Arts and Sciences (1968-1976).

OLSON, WALDEMAR, Ed.D. (University of Texas)
Professor of Education (1957-1967).

OLSSON, CARL NIELS, Ph.D. (University of Florida)
Associate Professor of Physical Sciences and Astronomy (1958-1972).

O'MALLEY, JOHN RICHARD, Ph.D. (University of Florida)
Professor of Electrical Engineering (1959-1973).

OMER, GUY CLIFTON, JR., Ph.D. (California Institute of
Professor of Physics and Astronomy (1955-1972).

ONODA, GEORGE Y., JR., Ph.D. (MIT)
Associate Professor of Materials Science and Engineering (1972-1973).

OPP, CARL BRADEN, B.A.
Head, Off-Campus Housing, Division of Housing (1940-1955).

O'RAND, ANGELA M., Ph.D. (Temple University)
Assistant in Gerontology, Center for Gerontological Studies and Programs (1976-1976).

O'RAND, MICHAEL G., Ph.D. (Temple University)
Assistant Professor of Veterinary Medicine and Anatomy (1975-1975).

ORSER, FRANK WILLIAM, M.S.
Associate Librarian and Assistant Chairperson, Acquisitions Department (1969-1969).

ORSER, LAWAN V., M.L.S. (Rutgers University)
Associate Librarian, IFAS (1970-1975).

ORTH, PAUL GERHARDT, Ph.D. (University of Wisconsin)
Assistant Professor (Assistant Soils Chemist), IFAS, Agricultural Research and Education Center, Homestead (1959-1959).

OSTERBIND, CARTER CLARKE, Ph.D. (American University)
Professor of Economics, Director of Bureau of Economic and Business Research and Director of Center for Gerontological Studies and Programs (1950-1961).

OSTOICH, MARK STEPHEN, M.M.
Instructor of Music (1974-1974).

OSWALD, ANDREW JACKSON, B.S. (Troy State College)
Associate in Research Administration (Management), IFAS (1973-1973).

OTIS, ARTHUR B., Ph.D. (Brown University)
Professor and Chairperson, Department of Physiology (1956-1956).

OTT, EDGAR ALTON, Ph.D. (Purdue University)
Associate Professor (Associate Animal Nutritionist) IFAS, (1970-1970).

OTTE, JOHN A., M.S. (University of Illinois)
Assistant Professor (Area Farm Management Economist), Food and Resource Economics Department, IFAS (1976-1976).

OVERMAN, ALLEN RAY, Ph.D. (North Carolina State College)
Associate Professor (Associate Agricultural Engineer), IFAS, (1969-1974).

OVERMAN, AMEGDA JACK, M.S. (University of Florida)
Professor (Nematologist), IFAS, Agricultural Research and Education Center, Bradenton (1951-1973).

OWEN, DENNIS EDWARD, Ph.D. (Princeton University)
Assistant Professor of Social Sciences and Religion (1974-1974).

OZAKI, HENRY YOSHIO, Ph.D. (Cornell University)
Associate Professor (Associate Horticulturist), IFAS, Agricultural Research Center, Belle Glade, Morikami Farm, Delray Beach (1954-1954).

PACE, JAMES EDWARD, M.S.A. (University of Florida)
Professor (Animal Husbandman), IFAS (1942-1965).

PACKER, ATHOL B., Ph.D., (University of Kansas)
Associate Professor of Education (1967-1972).

PACTOR, H. SIDNEY, M.A.
Assistant Professor of Journalism and Communications (1972-1974). *

PAFFORD, VIRGIE MELTON, M.P.H. (Univ. of North Carolina)
Assistant Professor, College of Nursing (1959-1965). *

PAGANINI, LOUIS ANTHONY, Ph.D. (University of Florida)
Assistant Professor of Geography (1968-1968).

PAIGE, ARNOLD, Ph.D. (University of California)
Associate Professor of Electrical Engineering and Speech (1966-1966).

PALENIK, GUS J., Ph.D. (University of Southern California)
Professor of Chemistry (1970-1972).

PALMER, ARNO ZANE, Ph.D. (University of Missouri)
Professor (Meat Scientist), IFAS (1955-1964).

PALMER, RICHARD DELRAY, Ed.D. (University of Florida)
Director, Treed Center, Division of Continuing Education (1966-1974).

PALMORE, W.P., D.V.M. (Auburn University), Ph.D. (Yale University)
Associate Professor (Associate Physiologist), College of Veterinary Medicine—IFAS, (1974-1974).

PANIDES, WALLACE C., Ph.D. (Florida State University)
Assistant Professor of Social Work in Psychiatry (1976-1976).

PANUSH, RICHARD S., M.D. (University of Michigan)
Assistant Professor of Medicine, VAH (1973-1973).

PANZIK, HAROLD L., Ph.D. (Arizona University)
Associate in Pharmacy (1971-1976).

PARKER, WOODROW MCCLAIN, Ph.D. (University of Florida)
Counseling Psychologist, University Counseling Center (1974-1974).

PARKINSON, MICHAEL THADDEUS, Ph.D. (University of Chicago)
Associate Professor of Physics (1969-1975).

PARR, ALFRED DAVID, Ph.D. (University of Iowa)
Assistant Professor of Civil Engineering (1975-1976).

PARRISH, FRED S., M.A.
Assistant Professor of Journalism and Communications (1970-1973). *

PARRISH, JAMES BRYAN, B.S.B.A. (Univ. of Florida)
Director of Admissions (1963-1970).

PARTHENIADES, EMMANUEL, Ph.D. (University of California)
Professor of Coastal and Oceanographic Engineering Laboratory; Professor of Engineering Sciences (1968-1969). *

PATE, FINDLAY MOYE, Ph.D. (University of Georgia)
Associate Professor (Associate Animal Nutritionist), IFAS Agricultural Research and Education Center, Belle Glade, (1970-1975).

PATRICK, J. CHRIS
Head Athletic Trainer (1970-1970).

PATTERSON, ELAM PUSEY, M.A.E. (University of Florida)
Assistant Professor of Mechanical Engineering (1952-1956).

PATTERSON, RICHARD SHELDON, Ph.D. (Cornell University)
Associate Professor (Associate Entomologist), IFAS, USDA (1968-1973).

PATTON, THOMAS HUDSON, Ph.D. (University of Texas)
Associate Curator of Vertebrate Paleontology, Florida State Museum, Associate Professor of Zoology and Geology (1964-1976).

PAUL, HARRY W., Ph.D. (Columbia University)
Professor of History and Graduate Coordinator of History (1966-1973).

PAUL, PENELOPE B., M.S.N. (Boston University)
Assistant Professor, College of Nursing (1976-1976)

PAUL, R.C., Ph.D. (Suny, Stony Brook)
Assistant Professor (NIH, Bethesda, Maryland), IFAS (1975-1975).

PAUL, WILLIAM L., M.D. (University of Kentucky)
Assistant Professor of Anesthesiology (1976-1976). Dietetics (1974-1974).

PAULK, JULIA E., M.S. (University of Tennessee)
Assistant Professor of Clinical and Community Dietetics (1974-1974).

PAYNE, DORRIS BROOKS, Ph.D. (University of Florida)
Coordinator of Research Activities and Assistant Professor, College of Nursing (1971-1974)

PAYNE, WILLARD WILLIAM, Ph.D. (University of Michigan)
Professor and Chairperson, Botany, Arts and Sciences, Director, Division of Biological Sciences, Taxonomist, IFAS (1973-1973).

PEACOCK, FENTRESS MCCOUGHAN, M.S. (University of Florida)
Associate Professor (Associate Animal Husbandman), IFAS, Agricultural Research Center, ONA (1952-1963).

PEACOCK, HUGH ANTHONY, Ph.D. (Iowa State University)
Professor (Agronomist) and Center Director, IFAS, Agricultural Research Center, Jay (1973-1973).

PEARCE, CLAUDIA E., M.S. (University of Florida)
Assistant in Computer Science, Bureau of Economic and Business Research (1976-1976).

PEEK, RALPH LEON, Ph.D. (University of Florida)
Associate Professor of Social Sciences and History (1963-1969).

PEELE, LAWRENCE C., Ph.D. (Florida State University)
Visiting Adjunct Professor of Statistics (1976-1976).

PEET, L. KEN, M.S.
Business Manager, Division of Housing (1972-1972).

PENA-RAMOS, ABELARDO, M.D. (Buenos Aires University)
Assistant Professor of Psychiatry and Pharmacy, VAH (1973-1973).

PENLAND, ARNOLD CLIFFORD, JR., M.Ed.
Associate Professor of Music (1970-1970).

PENNYPACKER, H.S. Ph.D. (Duke University)
Professor of Psychology (1962-1970).

PENROD, JOHN ARTHUR, Ph.D. (University of Pennsylvania)
Professor of English (1950-1970). *

PEPINE, CARL J., M.D. (New Jersey College of Medicine)
Associate Professor of Medicine, VAH (1974-1975).

PEPINSKY, RAYMOND, Ph.D. (University of Chicago)
Professor of Physics and Materials Science Engineering and Electrical Engineering (1968-1973).

PEREZ, FERMIN LUIS, LL.D. (University of Havana)
Assistant Law Librarian (1967-1968).

PERKINS, BENJAMIN DAVID, Ph.D. (University of Hawaii)
Adjunct Assistant Professor, IFAS (1972-1972).

PERKINS, HAVEN M., M.D. (University of Louisville)
Professor of Anesthesiology (1959-1972).

PERKINS, JIMMY C., B.S.
Assistant to the Graduate Dean and Assistant to the Director of Sponsored Research (1950-1976).

PERLETTE, JOHN M., Ph.D. (University of Chicago)
Assistant Professor of English (1973-1974).

PERRIN, JOHN HENSTOCK, Ph.D. (University of London)
Professor of Pharmacy and Associate Chairman, Pharmacy (1976-1976).

PERRY, NATHAN WARREN, Ph.D. (Florida State University)
Acting Chairman and Professor of Clinical Psychology and Psychology (1963-1967).

PERRY, VERNON G., Ph.D. (University of Wisconsin)
Professor (Nematologist), IFAS (1959-1959).

PERSON, WILLIS BAGLEY, Ph.D. (University of California)
Professor of Chemistry (1966-1966).

PESEK, JOSEPH A., M.D. (University of Miami)
Associate Professor of Pediatrics (JHEP) (1974-1974).

PETERS, DONALD C., J.D. (University of Iowa)
Associate Professor of Law (1973-1975).

PETERS, WILLIAM LEE, Ph.D. (University of Utah)
Professor (Entomologist), (FAMU), IFAS (1973-1973).

PETERSON, LENNART RUDOLPH, Ph.D. (Massachusetts Institute of Technology)
Associate Professor of Physical Sciences and Physics (1967-1972).

PETRUS, DONALD R., M.S.
Adjunct Assistant in Chemistry, IFAS, DC, AREC—Lake Alfred (1968-1970).

PETTWAY, RICHARD H., Ph.D. (Univ. of Texas at Austin)
Associate Professor of Finance (1970-1970).

PETTY, ROY WILLIAM, M.D. (University of Arkansas)
Assistant Professor of Orthopaedic Surgery (1975-1975).

PEVONKA, M. PETER, M.S.P.
Assistant Professor of Pharmacy (1973-1973).

PFAFF, WILLIAM W., M.D. (University of Buffalo)
Professor of Surgery (1965-1971).

PHILIPS, SANDRA LOUISE, M.A. (Southeastern Louisiana Univ.)
Instructor of Physical Education (1973-1973).

PHILLIPS, RICHARD LEE, Ph.D. (Michigan State University)
Associate Professor of Fruit Crops (Associate Extension Horticulturist), IFAS, (1964-1964). *

PHILLIPS, SHIRLEY W., M.S. (University of Kansas)
Teacher, P.K. Yonge Laboratory School (1974-1974).

PICKARD, JOHN BENEDICT, Ph.D. (University of Wisconsin)
Professor of English (1963-1968).

PIERCE, DAVID RATCLIFFE, M.B.A.
Assistant Professor of Building Construction (1974-1974).

PIERCE, FRANK N., Ph.D. (University of Illinois)
Professor of Journalism and Communications (1972-1972).

PIERCE, JAMES ROBERT, J.D. (University of Florida)
Associate Professor of Law (1968-1971).

PIERCE, JO ANN BELL, M.A. (University of Missouri)
Assistant Professor, IFAS Editorial (1974-1974).

PIERCE, ROBERT N., Ph.D. (University of Minnesota)
Professor of Journalism and Communications (1970-1976). *

PIERCE, ROBERT WILLIAM, JR., Ph.D. (University of Illinois)
Associate Professor of Geology (1969-1974).

PIERINGER, ARTHUR PAUL, Ph.D. (Cornell University)
Associate Professor (Associate Horticulturist), IFAS Agricultural Research and Education Center, Lake Alfred (1956-1972).

PIERSON, K. KENDALL, M.D. (New York University)
Professor and Chief of Anatomical Pathology, Assistant Dean for Clinical Affairs, and Chief of Staff, Shands (1968-1974).

PIRKLE, EARL C., Ph.D. (University of Cincinnati)
Professor of Physical Sciences and Geology and Chairperson of the Department of Physical Sciences (1950-1972).

PISANI, JOSEPH R., Ph.D. (University of Maryland)
Associate Professor of Journalism and Communications (1973-1973).

PITTS, JAMES H., Ph.D. (University of Northern Colorado)
Assistant Professor of Behavioral Studies (1971-1971).

PITTS, ROBERT F., M.D., Ph.D. (Johns Hopkins University)
Research Professor of Medicine (1974-1974).

PLANT, CHRISTINE T., M.A. (University of South Florida)
Teacher, P.K. Yonge Laboratory School (1974-1974).

PLEASANTS, JULIAN MCIVER, Ph.D. (Univ. of North Carolina)
Assistant Professor of Social Sciences and History (1969-1969).

PLOWMAN, FAYE T., M.A. (Michigan State University)
Assistant Professor (Housing Specialist) Home Economics, IFAS (1972-1972).

PLUTZKY, MAXIMO, M.D. (Havana University)
Professor of Psychiatry (1968-1975).

PLYLER, CRANFORD O., JR., M.D. (George Wash. U.)
Associate Professor of Community Health and Family Medicine (1976-1976).

POE, SIDNEY LAMARR, M.S. (University of Missouri)
Associate Professor (Associate Entomologist) Center for Environmental Programs, IFAS (1969-1974).

POHLHAUSEN, KARL, Ph.D. (University of Gottingen)
Professor of Engineering Sciences (1972-1972).

POLACK, FRANK M., M.D. (San Marcus University, Peru)
Professor of Ophthalmology (1967-1974).

POLLACK, ROBERT W., M.D. (Suny-Downstate)
Assistant Professor of Psychiatry and Co-Director of Adult and Adolescent Inpatient Unit (1976-1976).

POLOPOLUS, LEONIDAS, Ph.D. (University of California, Berkeley)
Professor (Economist) and Chairperson, Food and Resource Economics Department, IFAS (1965-1973).

POMER, MARSHALL I., Ph.D. (Harvard University)
Assistant Professor of Economics (1976-1976).

POOLE, REID, M.A.
Professor of Music (1949-1962).

POOLE, RICHARD TURK, Ph.D. (University of Florida)
Professor (Plant Physiologist), IFAS, Agricultural Research Center, Apopka (1961-1975).

POOR, SUSAN JANE, M.Ed. (University of Florida)
Teacher, P.K. Yonge (1975-1975).

POPE, NOLAN FRANK, M.L.S. (Rutgers University)
Assistant Librarian, Circulation Dept. (1975-1975).

POPENOE, HUGH LLYWELYN, Ph.D. (University of Florida)
Director of International Programs in Agriculture; Director of Center for Tropical Agriculture; Professor of Soils, Geography, Botany, Agronomy; Acting Director of Center for Aquatic Sciences; Director of SUS SEA Grant College (1954-1971).

POPOV, VASILE MIHAI, Ph.D. (Power Institute of the Romanian Academy)
Professor of Mathematics (1972-1973). Professor of Mathematics and Electrical Engineering (1972-1973).

POPP, DANIEL M., Ph.D. (University of Chicago)
Assistant Professor of German and Scandinavian (1973-1973)

POPP, JAMES ALAN, Ph.D. (University of California) D.V.M. (Ohio State University)
Assistant Professor of Pathology College of Veterinary Medicine—IFAS (1974-1974).

POPPELL, J. EDWARD, B.S. (Florida State University)
Assistant Director of Finance and Accounting (1971-1975).

POP-STOJANOVIC, ZORAN RISTA, Ph.D. (Belgrade)
Associate Chairperson and Professor of Mathematics (1965-1972).

PORRO, BARBARA G., M.A. (University of Florida)
Teacher, P.K. Yonge Laboratory School (1976-1976).

POSNER, PHILIP, Ph.D. (State University of New York)
Assistant Professor of Physiology (1972-1972).

POST, DON MCKENZIE, M.S.F. (University of Florida)
Associate Professor (Harvester), IFAS (1951-1976).

POTTER, WILLIAM MELVILLE, M.A.
Assistant Professor of Physical Education and Tennis Coach (1946-1946).

POTTS, THOMAS V., D.D.S. (St. Louis University) Ph.D. (University of Rochester)
Assistant Professor, Division of Oral Biology, College of Dentistry; Assistant Professor of Immunology and Medical Microbiology, College of Medicine (1973-1974). .

POWELL, WILLIAM R., Ed.D. (Indiana University)
Professor of Education (1974-1974).

POWERS, JAMES B., B.S.P.
Assistant Professor of Pharmacy (1973-1973).

POWERS, KATHRYN L., J.D. (University of Florida)
Associate Professor (1975-1975).

POZZETTA, GEORGE E., Ph.D. (Univ. of North Carolina)
Associate Professor of Social Sciences and History, Adviser (1971-1976).

PRESTON, JAMES F., Ph.D. (University of Minnesota)
Associate Professor, Microbiology and Cell Science, Arts and Sciences; Associate Microbiologist, IFAS (1969-1975).

PREVIC, EDWARD P., Ph.D. (University of Illinois)
Associate Professor, Microbiology and Cell Science, Arts & Sciences; Associate Microbiologist, IFAS (1965-1966).

PRICE, DAVID E., M.S. (University of Florida)
Visiting Instructor of Medical Technology (1976-1976).

PRICE, DONALD G., M.P.H. (University of Michigan)
Associate in Radiation Control, Head, Radiation Control and Radiological Services (1961-1967).

PRICE, GEORGE DODDS, Ph.D. (University of Florida)
Associate Research Scientist, IFAS, (1975-1975).

PRICE, JOHN WILBUR, Ph.D. (University of Michigan)
Associate Professor of Humanities (1961-1970).

PRIEM, ERVIN, SAMUEL, B.S.E.E.
Associate Professor of Electrical Engineering (1952-1975).

PRIMACK, ROBERT B., Ed.D. (Rutgers University)
Associate Professor of Education (1966-1973).

PRINE, GORDON MADISON, Ph.D. (Ohio State University)
Associate Professor of Agronomy, IFAS (1958-1965).

PRING, DARYL ROGER, Ph.D. (North Dakota State)
Associate Professor, (Associate Plant Pathologist), USDA, IFAS (1971-1971).

PRITCHETT, WILLIAM LAWRENCE, Ph.D. (Iowa State (University)
Professor of Soil Science (Soil Chemistry), IFAS (1948-1953). *

PROBERT, WALTER, S.J.D. (Yale University)
Professor of Law (1959-1960).

PROCHASKA, FREDERICK JAMES, Ph.D. (North Carolina St. Univ.)
Associate Professor, Food and Resouce Economics, IFAS (1970-1975).

PROCTOR, SAMUEL, Ph.D. (University of Florida)
Distinguished Service Professor of History and Social Sciences; Julien C. Yonge Professor of Florida History; Curator of History, Florida State Museum (1946-1974).

PRUGH, PETER EUGENE, M. Arch.
Assistant Professor of Architecture (1974-1977).

PURCIFULL, DAN ELWOOD, Ph.D. (University of California)
Professor (Plant Pathologist), IFAS (1964-1975).

PURDY, BARBARA ANN, Ph.D. (University of Florida)
Associate Professor of Social Sciences and Anthropology, Research Associate, Florida State Museum, (1971-1976).

PURDY, LAURENCE HENRY, Ph.D. (University of California)
Professor and Chairperson, Department of Plant Pathology, Institute of Food and Agricultural Sciences (1967-1967).

PURKEY, WILLIAM WATSON, SR., Ed.D. (University of Virginia)
Professor of Education (1964-1970).

PURPURA, JAMES A., M.S.E.
Professor of Coastal and Oceanographic Engineering Laboratory; Professor of Engineering Sciences (1958-1973).

PURSER, MARY MAY, M.F.A. (University of Florida)
Associate Professor of Education (1959-1974).

PURSLEY, LOUANN W., M.Ed. (University of Houston)
Visiting Assistant Professor of Medical Technology (1975-1975).

PYATT, EDWIN EUGENE, D.Eng. (Johns Hopkins University)
Professor of Environmental Engineering Sciences and Chairman of the Department (1965-1970).

PYE, RUBY LEE, M.A.
Assistant Professor of Physical Education (1949-1954).

QUARLES, JAMES C., J.D. (University of Virginia)
Professor of Law (1969-1969).

QUESENBERRY, KENNETH HAYS, Ph.D. (University of Kentucky)
Assistant Professor (Assistant Agronomist), IFAS (1975-1975).

QUICK, JANE N., Ed.S. (University of Florida)
Visiting Teacher, P.K. Yonge Laboratory School (1976-1976).

QUISLING, RONALD G., M.D. (University of Wisconsin)
Assistant Professor of Radiology (1976-1976).

RABELL, ROSA B., M.Ed. (University of Florida)
Instructor, P.K. Yonge Laboratory School (1966-1970).

RABINOWICZ, I. MATTHEW, M.D. (Westminister Hospital, London)
Assistant Professor of Ophthalmology and Pediatrics (1975-1975).

RADCLIFFE, ROBERT C., Ph.D. (Ohio State University)
Associate Professor of Finance (1971-1976). *

RALEIGH, GEORGE JOSEPH, Ph.D. (Cornell University)
Professor (Horticulturist), Florida Lettuce, Inc., IFAS, Agricultural Research and Education Center, Belle Glade (1970-1970).

RAMBO, PATRICIA, B.S. (Florida International University)
Assistant Director, Division of Sponsored Research; Instructor of Sociology (1973-1975).

RAMEY, ROBERT ANCEL, JR., D.Sc. (University of Cincinnati)
Professor of Electrical Engineering; Associate Director, Engineering and Industrial Experiment Station; Acting Chairperson, Department of Computer and Information Sciences (1966-1973).

RAMIREZ, ADOLFO, Ph.D. (University of Wisconsin)
Associate Professor of Spanish (1948-1975).

RANDALL, J. MALCOM, M.H.A. (St. Louis University)
Director, Veteran's Administration Hospital and Professor of Health and Hospital Administration, V.A. (1966-1976).

RANDAZZO, ANTHONY FRANK, Ph.D. (University of North Carolina)
Associate Professor of Geology (1967-1972).

RANGE, ANTHONY J., B.S.
Residence Life Coordinator, Division of Housing (1976-1976).

RAO, KOPPAKA V., Ph.D. (University of Wisconsin)
Professor of Pharmaceutical Chemistry, College of Pharmacy (1969-1972).

RAO, PEJAVER VISHWAMBER, Ph.D. (University of Georgia)
Professor of Statistics (1965-1972).

RASBURY, WILEY C., Ph.D. (Bowling Green State University)
Assistant Professor of Clinical Psychology and Psychology (1971-1971).

RATHBUN, FRANK F., M.A.
Assistant Professor in Journalism and Communications (1968-1968)

RATLIFF, HUGH DONALD, Ph.D. (Johns Hopkins University)
Professor of Industrial and Systems Engineering (1970-1976).

RAULERSON, JAMES D., M.D. (University of Florida)
Instructor of Medicine (1975-1975).

RAY, DELMAS DENNIS, Ph.D. (U. of Florida), C.P.A. (Florida)
Professor of Accounting (1948-1962).

RAY, JORDAN BOON, JR., J.D. (University of Florida)
Professor of Business Law (1962-1975).

RAYL, JOHN E., M.D. (University of Louisville)
Associate Professor of Surgery, Lake City, VAH (1962-1971).

REDDISH, ROBERT LEE, Ph.D. (Texas A & M University)
Professor (Meats Specialist) IFAS (1955-1972).

REED, LAMBERT S., B.A. (Morris Brown College)
Assistant Football Coach (1975-1975).

REED-HILL, ROBERT ELLIS, D.Sc. (Yale University)
Professor of Materials Science and Engineering (1960-1964). *

REESE, RANDOLPH, B.S.P.E.
Swimming Coach (1976-1976).

REESE, ROBERT LEWIS, Ph.D. (University of Florida)
Assistant Professor (Assistant Horticulturist) IFAS, Agricultural Research and Education Center, Lake Alfred, (1963-1966).

REEVES, FRANK BLAIR, M.A. Arch.
Professor of Architecture (1949-1968).

REGALADO, MANUEL F., M.D. (Harvard University)
University Physician (1975-1975).

REGNA, JOSEPH LOUIS, M.A.
Associate Professor of Recreation (1961-1976).

REICHARD, CARY LAYNE, Ed.D. (Colorado State University)
Associate Professor of Education (1969-1974).

REID, CHARLES EDWARD, Ph.D. (Louisiana State University)
Associate Professor of Chemistry (1948-1955).

REID, WILLIAM R., Ph.D. (Iowa State University)
Professor of Education and Chairperson, Special Education Department (1969-1969).

REILLY, CATHERINE J., M.N. (University of Florida)
Instructor, College of Nursing (1976-1976).

REINERT, JAMES ARNOLD, Ph.D. (Clemson University)
Associate Professor (Associate Entomologist), IFAS, Agricultural Research Center, Ft. Lauderdale (1970-1975).

REISKIND, JONATHAN, Ph.D. (Harvard University)
Associate Professor of Zoology (1967-1972).

REITH, EDWARD J., Ph.D. (New York University)
Professor of Anatomy (1972-1972).

REITZ, CLAIR D., D.D.S. (University of Pennsylvania)
Professor of Operative Dentistry, College of Dentistry (1976-1976).

REITZ, H. JOSEPH, Ph.D. (MIT)
Professor of Management (1974-1976).

REITZ, HERMAN J., Ph.D. (Ohio State University)
Professor (Horticulturist and Center Director) IFAS, AREC-Lake Alfred (1946-1957).

REMSEN, JOYCE F., Ph.D. (Rutgers University)
Research Assistant Professor of Biochemistry and Molecular Biology (1971-1975).

RENNER, RICHARD ROY, Ph.D. (University of Texas)
Professor of Education (1965-1971).

RENNERT, OWEN M., M.D. (University of Chicago)
Professor of Pediatrics, Biochemistry and Molecular Biology and Neurosciences (1968-1971).

RENZ, JAMES HENRY, A.M.L.S.
Associate Director of Libraries (1970-1976).

RESNICK, JAQUELYN LISS, Ph.D. (University of Florida)
Counseling Psychologist, Assistant Professor of Behavioral Studies (1970-1974).

RESNICK, MICHAEL B., Ed.D. (University of Florida)
Instructor in Pediatrics (1976-1976).

REYNOLDS, JOHN EVERETT, Ph.D. (Iowa State University)
Associate Professor, Food and Resource Economics, IFAS (1966-1971).

REYNOLDS, MICHAEL J., M.S. (University of Florida)
Instructor, Computer and Information Sciences College of Engineering (1976-1976).

REYNOLDS, RICHARD C., M.D. (Johns Hopkins University)
Professor and Chairperson, Department of Community Health and Family Medicine, Professor of Latin American Studies (1968-1971).

RHINE, LEONARD, M.L.S.
Assistant Librarian, Health Center Library (1973-1975).

RHINES, FREDERICK NIMS, Ph.D. (Yale University)
Distinguished Service Professor of Materials Science and Engineering (1959-1973).

RHOADES, FREDERICK MILTON, Ph.D. (Mississippi State College)
Associate Professor (Associate Soils Chemist), IFAS, Agricultural Research and Education Center, Quincy (1966-1973).

RHOADES, HARLAN L., Ph.D. (University of Illinois)
Professor (Nematologist), IFAS, Agricultural Research and Education Center, Sanford (1959-1973).

RHOTON, ALBERT L., JR., M.D. (Washington University)
Professor and Chief of Neurological Surgery (1972-1973).

RICE, EDWIN RAY, BSA, (University of Florida)
Assistant Professor (Assistant Agronomist), Agricultural Research and Education Center, Belle Glade, IFAS, USDA

RICE, MIRIAM WAGNER, Ph.D. (Cornell University)
Assistant Professor ofSpanish (1973-1973).

RICE, PRUDENCE, M., Ph.D. (Pennsylvania State University)
Assistant Professor of Anthropology (1976-1976).

RICE, WARREN JOHN, Ph.D. (Western Reserve University)
Assistant Professor of Clinical Psychology, V.A. (1969-1969).

RICH, JIMMY RAY, Ph.D. (University of California, Riverside)
Assistant Professor (Assistant Nematologist), IFAS, Agricultural Research Center, Live Oak (1976-1976).

RICH, STANLEY T., M.S. (Indiana State University)
Urban Specialist, Urban and Regional Development Center (1975-1975).

RICHARD, GEORGE A., M.D. (University of Pittsburgh)
Professor of Pediatrics and Chief of Renal Division (1967-1975).

RICHARD, THOMAS J., M.S. (University of Florida)
Instructor, Computer and Information Sciences College of Engineering (1976-1976).

RICHARDS, PAMELA S., Ph.D. (Northwestern University)
Assistant Professor of Sociology (1976-1976).

RICHARDSON, JAMES GILBERT, M.A. (University of Florida)
Associate Professor of Finance (1946-1957). *

RICHIE, NICHOLAS DAN, Ph.D. (University of Michigan)
Assistant Professor of Health and Hospital Administration (1974-1974).

RICHMAN, ALAN VE., M.D. (Jefferson Medical College)
Assistant Professor of Pathology (1975-1975).

RICHTER, RONALD L., Ph.D., (Texas A & M University)
Associate Professor (Extension Dairy Technologist), IFAS (1972-1976).

RIDGDILL, GARY DALE, M.Arch.
Assistant Professor of Architecture (1972-1972).

RIDGE, MARGARET BURNS, M.L.S.
Associate Librarian, Catalog (1969-1974).

RIDINGS, WILLIAM H., Ph.D. (North Carolina State University)
Assistant Professor (Assistant Plant Pathologist), IFAS (1971-1971).

RIGGALL, FRANK C., M.D. (West Virginia University)
Instructor in Obstetrics, and Gynecology (1976-1976).

RIGGIOLA, MARYLORETTO, B.S. (University of Houston)
Systems Coordinator (1973-1976).

RIKER, HAROLD CLARK, Ed.D. (Columbia University)
Professor of Education (1938-1972).

RING, WADE, M.Ed. (University of Georgia)
Instructor, P. K. Yonge Laboratory School (1958-1962).

RINGELBERG, MELVIN L., D.D.S. (University of Michigan), M.P.H., D.P.H. (Johns Hopkins University)
Assistant Professor of Community Dentistry, College of Dentistry (1974-1974).

RION, WILLIAM E., M.A.
Director of J. Wayne Reitz Union (1945-1948). *

RITTER, GERHARD X., Ph.D. (University of Wisconsin)
Associate Professor of Mathematics (1971-1976).

RITTER, GRANT ALDEN, Ph.D. (Cornell University)
Assistant Professor of Mathematics (1976-1976).

ROADMAN, DWIGHT ROBERT, B.A.
Visiting Teacher, P.K. Yonge Laboratory School (1976-1976).

ROAN, VERNON PARKER, Ph.D. (University of Illinois)
Professor of Mechanical Engineering (1966-1973).

ROBBINS, CHARLES LEWIS, M.S. (Iowa State University)
Assistant Professor of Sociology (1956-1976).

ROBBINS, RALPH COMPTON, Ph.D. (University of Illinois)
Associate Professor (Associate Human Nutritionist), IFAS, (1959-1966). *

ROBERTS, CARLTON J., B.Arch. (University of Florida)
Planning Consultant (1972-1972).

ROBERTS, DANIEL ALTMAN, Ph.D. (Cornell University)
Professor of Plant Pathology, IFAS (1959-1964).

ROBERTS, LEONIDAS HOWARD, Ph.D. (University of Florida)
Professor of Physical Sciences and Astronomy; Adviser (1949-1971).

ROBERTS, R. MICHAEL, Ph.D. (Oxford University)
Professor of Biochemistry and Molecular Biology and Botany (1970-1976).

ROBERTS, RAYMOND BLAINE, Ph.D. (Iowa State University)
Associate Professor of Economics (1970-1974).

ROBERTS, RICHARD H., Ph.D. (University of Wisconsin)
Adjunct Professor, IFAS (1976-1976).

ROBERTSON, WILLIAM KITCHENER, Ph.D. (Purdue University)
Professor of Soil Science (Soil Chemistry), IFAS (1950-1965).

ROBINSON, FRANK ALBERT, M.S. (Auburn University)
Professor (Apiculturist), IFAS (1950-1973).

ROBINSON, WILLIAM RONALD, Ph.D. (Ohio State University)
Professor of English (1967-1971).

ROCKWOOD, DONALD L., Ph.D. (North Carolina State University)
Assistant Professor, (Forest Geneticist), IFAS (1974-1975).

ROCKWOOD, WILLIAM PECK, M.A. (School of Advanced International Studies of Johns Hopkins University)
Coordinator, Department of Extended Services, Division of Continuing Education (1973-1973).

RODEHEAVER, JANET LITTLE, M.Ed. (University of Florida)
Assistant Professor of Medical Technology (1961-1967).

RODGERS, BRADLEY M., M.D. (Johns Hopkins University)
Associate Professor of Surgery and Pediatrics (1974-1976).

RODGERS, EARL GILBERT, Ph.D. (Iowa State University)
Professor of Agronomy, IFAS (1946-1959).

ROESSLER, CHARLES E., Ph.D. (University of Florida)
Associate Professor of Environmental Engineering Sciences (1967-1973).

ROESSLER, GENEVIEVE S., Ph.D. (University of Florida)
Assistant Professor of Nuclear Engineering Sciences (1973-1975).

ROGERS, ANDREW J., Ph.D. (University of Maryland)
Professor of Entomology, State Board of Health, IFAS (1971-1971).

ROGERS, CLARENCE J., M.Ag. (University of Florida)
Professor of Agricultural Engineering, IFAS (1953-1975).

ROGERS, JAMES SAMUEL, Ph.D. (University of Illinois)
Assistant Professor, Agricultural Engineering, USDA, IFAS (1968-1968).

ROLF, ROBERT T., Ph.D. (University of Hawaii)
Assistant Professor of Japanese (1975-1975).

ROMRELL, LYNN, J., Ph.D. (Utah State University)
Assistant Professor of Veterinary Medicine and Anatomy (1975-1975).

ROOKS, EVELYN ANN, M.H.E.
Assistant Professor (Extension Human Development Specialist) IFAS (1969-1969).

ROOKS, JOHN J., M.D. (University of Miami)
Assistant Professor of Surgery, VAH and Assistant Professor of Pediatrics (1975-1975).

ROOSENRAAD, JON A., Ph.D. (Florida State University)
Assistant Professor of Journalism and Communications (1968-1974). *

ROQUE, JUAN L., M.D. (University of Sevilla Medical School)
Assistant Professor of Medicine, JHEP (1973-1973).

ROSENBAUM, WALTER A., Ph.D. (Princeton University)
Professor of Political Science (1961-1975). *

ROSENBLOOM, ARLAN L., M.D. (University of Wisconsin)
Professor of Pediatrics and Director of Clinical Research Center (1968-1975).

ROSENSHEIN, JOSEPH S., Ph.D. (M.I.T.)
Director of Pre-Professional Education and Lecturer in Physics (1966-1974). *

ROSS, CLAUDIUS ALLEN, Ph.D. (University of Florida)
Professor of Engineering Sciences, Eglin AFB (1969-1976).

ROSS, JOHN J., M.D. (Harvard University)
Professor of Pediatrics and Neurology (1965-1974).

ROSS, MICHAEL H., Ph.D. (New York University)
Professor and Chairperson, Department of Anatomy (1971-1974).

ROTHMAN, HOWARD BARRY, Ph.D. (Stanford University)
Associate Professor of Speech (1969-1976).

ROTHWELL, DONALD FREDERICK, Ph.D. (Purdue University)
Professor of Soil Science (Soil Microbiology), IFAS (1948-1971).

ROUSE, ALVIN HAMILTON, M.S.
Professor (Chemist), IFAS Agricultural Research and Education Center Lake Alfred (1949-1958).

ROUSEFF, RUSSELL LEE, Ph.D. (University of Georgia)
Adjunct Assistant Professor (Assistant Chemist) IFAS, DC, AREC-Lake Alfred (1974-1974).

ROW, ANDREW WILLIAM, M.A. (University of Michigan)
Instructor in Mathematics (1958-1958).

ROWE, MARY BUDD, Ph.D. (Stanford University)
Professor of Education (1972-1974).

RUBIN, MELVIN L., M.D. (University of California)
Professor of Ophthalmology, Chief of Retinal Disease Center, and Director of Resident Training Program (1963-1975).

RUBIN, STEPHEN, J.D. (Columbia University)
Associate Professor of Law (1972-1975).

RUELKE, OTTO CHARLES, Ph.D. (University of Wisconsin)
Professor of Agronomy, IFAS (1955-1969).

RUFFIN, WILLIAM CAIN, JR., M.D. (Univ. of North Carolina)
Professor of Psychiatry (1959-1968).

RUIZ, NATHAN CHARLES, M.A.
Assistant Professor of Art (1973-1976).

RUMBLE, JAMES DOUGLAS, M.S.M.E. (Rensselaer Polytechnic Institute)
Associate Professor of Civil Engineering (1975-1975).

RUMMEL, RAYMOND ALFRED, B.S.
Assistant Professor of Materials Science and Engineering (1959-1967).

RUSCHHAUPT, DAVID G., M.D. (University of Chicago)
Assistant Professor of Pediatrics (JHEP) (1975-1975).

RUSH, RAMONA RUTH, Ph.D. (University of Wisconsin)
Professor of Journalism and Communications (1972-1976). *

RUSHTON, FRANCIS EDWARDS, M.D. (University of Virginia)
Assistant Professor of Pediatrics (1970-1970).

RUTAN, FRED MURRAY, M.S. (Springfield College)
Chairperson and Professor, Department of Physical Therapy (1961-1973).

RUTH, BYRON EDWARD, Ph.D. (West Virginia University)
Associate Professor of Civil Engineering (1970-1970).

RYAN, MARY PATRICIA, M.A.
Assistant Professor of Physical Education (1969-1969).

RYDEN, SALLY E., M.D. (University of Michigan)
Assistant Professor of Pathology, Medical Director of Blood Bank (1976-1976).

RYSCHKEWITSCH, GEORGE EUGENE, Ph.D. (Ohio State University)
Professor of Chemistry (1956-1965).

SABATELLA, JOSEPH J., M.F.A.
Dean, College of Fine Arts and Professor of Art (1959-1975).

SABIN, JOHN R., Ph.D. (University of New Hampshire)
Associate Professor of Physics and Chemistry (1970-1971).

SACHS, URIEL, M.D. (Faculty de Medicine, Paris)
Assistant Research Scientist in Ophthalmology (1976-1976).

SAGA, SEGUNDINA A., M.D. (University of The Philippines)
Assistant Professor of Anesthesiology, VAH (1973-1973).

SAILER, REECE I., Ph.D. (Kansas University)
Graduate Research Professor, Entomology and Nematology Department, IFAS (1973-1973).

SAINE, THOMAS JEFFERSON, III, Ph.D. (Northwestern University)
Assistant Professor of Speech (1972-1972).

SAMUEL, JOHN ALTON, M.S.E. (University of Florida)
Associate Professor of Mechanical Engineering (1954-1967).

SANCHEZ-OSSORIO, MELINDA, M.Ed. (Univ. of Florida)
Visiting Instructor (1974-1974).

SAND, ROBERT SHERMAN, Ph.D. (University of Kentucky)
Assistant Professor (Assistant Animal Husbandman) IFAS (1971-1971).

SANDEEN, C. ARTHUR, Ph.D. (Michigan State University)
Vice President for Student Affairs and Associate Professor of Education (1973-1973).

SANDEFUR, WAYNE THOMAS, H.S.D. (University of Indiana)
Professor of Health Education (1953-1963).

SANDEN, GERALD ERNEST, Ph.D. (Virginia Polytechnic Institute and State University)
Assistant Professor (Assistant Plant Pathologist), IFAS, Agricultural Research and Education Center, Quincy (1973-1973).

SANDERS, LINDA W., M.A.Arch.
Assistant Professor of Architecture (1974-1976).

SANDERS, WILLIAM B., Ph.D. (University of California)
Assistant Professor, Criminal Justice Department and Sociology (1974-1974).

SANDERS, WILLIE, B.S.E. (University of Florida)
Assistant Professor of Anatomy and Occupational Therapy and Director of State Anatomical Board and Office of Minority Relations (1968-1976).

SANDERSON, JOHN ALLEN, M.U.P.
Associate Professor of Landscape Architecture (1969-1974).

SANDOR, GEORGE NASON, D.Eng.Sc. (Columbia University)
Research Professor of Mechanical Engineering (1976-1976).

SANTOLI, C. MICHAEL, B.I.E. (North Carolina State Univ.)
Coordinator of Cooperative Education, Division of Continuing Education (1976-1976).

SARTAIN, JERRY B., Ph.D. (North Carolina State University)
Assistant Professor of Soil Science (Soil Fertility), IFAS (1974-1974).

SATZ, PAUL, Ph.D. (University of Kentucky)
Professor of Clinical Psychology and Psychology (1963-1967).

SAULS, JULIAN W., Ph.D. (University of Florida)
Assistant Professor (Extension Citriculturist), IFAS (1975-1975).

SAUNDERS, SCOTT G., B.S. (Johns Hopkins University)
Interim Assistant Professor of Economics (1974-1974).

SAVITT, TODD L., Ph.D. (University of Virginia)
Assistant Professor of Community Health, Family Medicine and History (1976-1976).

SAW, JOHN GREENVILLE, Ph.D. (University of London)
Professor of Statistics (1965-1969).

SAWYER, HERBERT A., JR., M.E.C.E. (Lafayette College)
Professor of Civil Engineering (1962-1962).

SAXON, JOHN P., Ph.D. (University of Georgia)
Associate Professor of Rehabilitation Counseling (1971-1976).

SAXON, STEPHEN APPOLLOS, Ph.D. (Florida State University)
Associate Professor of Mathematics (1969-1975).

SCHAFER, SUZAN H., Ed.D. (University of Florida)
Acting Director, Department of Extended Services, Division of Continuing Education (1975-1976).

SCHAFFER, GERALD, B.S.B.A. (Tampa University)
Assistant to the Vice President for Administrative Affairs (1964-1971).

SCHANK, STANLEY COX, Ph.D. (University of California)
Professor of Agronomy (1961-1973).

SCHAUB, JAMES HAMILTON, Ph.D. (Purdue University)
Professor of Civil Engineering and Chairperson of the Department (1969-1969). *

SCHAUBLE, PAUL G., Ph.D. (Michigan State University)
Counseling Psychologist, University Counseling Center, Professor of Psychology, Counselor Education and Behavioral Studies (1970-1975).

SCHEAFFER, RICHARD LEWIS, Ph.D. (Florida State University)
Associate Professor of Statistics (1967-1972).

SCHEFFER, GEORGE, M.A., Arch.
Assistant Professor of Architecture (1969-1971).

SCHENCK, NORMAN CARL, Ph.D. (University of Illinois)
Professor (Plant Pathologist), IFAS (1956-1968).

SCHER, RICHARD KING, Ph.D. (Columbia University)
Assistant Professor of Social Sciences and Political Science (1972-1972).

SCHIEBLER, GEROLD LUDWIG, M.D. (Harvard Medical School)
Professor and Chairperson, Department of Pediatrics (1960-1968).

SCHIFFLI, RICHARD J., B.S.B.A. (Univ. of Florida)
University Business Manager (1964-1971).

SCHILLING, LYNNE S., M.N. (University of Florida)
Assistant Professor, College of Nursing (1975-1975).

SCHIMPFF, ROBERT D., M.D. (University of Florida)
Assistant Professor of Neuropathology and Neurology (1972-1972).

SCHLENKER, B.R., Ph.D. (State University of New York at Albany)
Associate Professor of Psychology (1972-1976).

SCHLENKER, PATRICIA, M.S. (Suny-Albany)
Assistant in Education (1973-1973).

SCHMELING, GARETH, L., Ph.D. (University of Wisconsin)
Professor of Classics & Humanities and Chairman of Classics (1970-1975).

SCHMERTMANN, JOHN HENRY, Ph.D. (Northwestern University)
Professor of Civil Engineering (1965-1965). *

SCHMID, GERHARD MARTIN, Ph.D. (Innsbruck University)
Associate Professor of Chemistry and Assistant Chairperson of Department of Chemistry (1964-1974).

SCHMID, REX E., Ed.D. (University of Virginia)
Assistant Professor of Special Education (1976-1976).

SCHMIDT, PATRICIA L., Ph.D. (Pennsylvania State University)
Acting Assistant Dean of University College, Assistant Professor of Behavioral Studies and Speech (1973-1973).

SCHMIDT, ROBERT ALLEN, Ph.D. (Pennsylvania State University)
Associate Professor (Forest Pathologist), IFAS (1967-1973).

SCHMIDT, RONALD H., Ph.D. (University of Minnesota)
Assistant Professor of Food Science, IFAS (1974-1974).

SCHNEIDER, GARY
Wrestling Coach (1974).

SCHNEIDER, NATHAN J., Ph.D. (University of Pittsburgh)
Assistant Professor of Microbiology and Cell Science, Arts and Sciences (1954-1954).

SCHNEIDER, RICHARD THEODOR, Dr. Rer Nat. (Technical University Stuttgart, Germany),
Professor of Nuclear Engineering Sciences (1965-1968). *

SCHOEN, FREDERICK J., Ph.D. (Cornell U.), M.D. (U. of Miami)
Assistant Professor of Dental Biomaterials, College of Dentistry (1975-1975).

SCHOENAU, RONALD HELMUTH, B.S. (University of Florida)
Director, NERDC (1962-1973).

SCHOESSOW, GLEN JOHN, M.S.M.E.
Professor of Nuclear Engineering Sciences (1958-1958).

SCHOLES, ROBERT JAMES, Ph.D. (University of Indiana)
Professor of Speech and Linguistics (1966-1976). *

SCHRODER, VINCENT NILS, Ph.D. (Duke University)
Associate Professor of Agronomy, IFAS (1955-1969).

SCHULKIND, MARTIN LEWIS, M.D. (University of Chicago)
Associate Professor of Pediatrics and Community Health and Family Medicine (1965-1972).

SCHULMAN, IVAN ALBERT, Ph.D. (Univ. of California at Los Angeles)
Graduate Research Professor of Latin American Literature (1973-1973).

SCHULMAN, STEPHEN GREGORY, Ph.D. (University of Arizona)
Associate Professor of Pharmaceutical Chemistry (1970-1974).

SCHUNCKE, GEORGE M., Ph.D. (Stanford University)
Assistant Professor of Education (1974-1974).

SCHURER, ERNST I., Ph.D. (Yale University)
Professor of German (1973-1973). *

SCHUSSLER, IRWIN, D.O. (Chicago College of Osteopathic Medicine)
Assistant Professor of Psychiatry (1976-1976).

SCHUSTER, DAVID JAMES, Ph.D. (Oklahoma State University)
Assistant Professor (Assistant Entomologist), IFAS, Agricultural Research and Education Center, Bradenton (1975-1975).

SCHWARTZ, HILLEL, Ph.D. (Yale University)
Adjunct Assistant Professor of History (1975-1975).

SCHWARTZ, J. MICHAEL, M.A. (Cornell University)
Assistant Professor of Behavioral Studies and Sociology (1973-1973).

SCHWARTZ, SYDNEY C., B.A. (University of Florida)
Visiting Teacher, P.K. Yonge (1975-1975).

SCHWARTZ, STUART ELLIS, Ed.D. (University of Kansas)
Assistant Professor of Education (1974-1974).

SCHWASSMANN, HORST O., Ph.D. (University of Wisconsin)
Associate Professor of Zoology (1972-1972).

SCIADINI, FRANK, M.A.
Assistant Professor of Behavioral Studies, Adviser; Director of University College Honors Program (1960-1965).

SCORNIK, JUAN C., M.D. (University of La Plata)
Assistant Professor of Pathology (1976-1976).

SCOTT, BERNICE S., Ed.D. (Columbia University)
Program Director and Assistant Professor of Allied Health Program (1972-1972).

SCOTT, KATHERINE NASFAY, Ph.D. (University of Florida)
Assistant Research Professor in Radiology, VAH (1968-1971).

SCOTT, ROBERT TAYLOR, Ph.D. (Duke University)
Assistant Professor of Religion and Coordinator of Religious Activities (1971-1971).

SCOTT, THOMAS A., Ph.D. (Harvard University)
Professor of Physics (1958-1971).

SCOTT, THOMAS MCDONALD, M.A.E.
Assistant Professor of Physical Education (1949-1952).

SCROGGIE, EVERETT, JR., M.A.
Assistant Professor of Communicative Disorders (1966-1968).

SCRUGGS, WILLIAM MARTIN, JR., M.Ed. (University of Florida)
Coordinator, Department of Extended Services, Division of Continuing Education (1968-1968.

SCUDDER, DELTON LEWIS, Ph.D. (Yale University)
Professor of Religion (1946-1946).

SCUDDER, WALTER TREDWELL, Ph.D. (Cornell University)
Professor (Horticulturist) IFAS, Agricultural Research and Educational Center, Sanford (1955-1968).

SEAMAN, WILLIAM, Ph.D. (University of Florida)
Assistant Professor of Forestry, Assistant Director of SUS Sea Grant College (1971-1972).

SEAWRIGHT, JACK A., Ph.D. (University of Florida)
Associate Professor of Entomology USDA, IFAS (1970-1970).

SEIDERS, REGINALD W., Ed.D.
Assistant Professor-(Extension Program Specialist) IFAS, (1974-1974).

SEILER, GARY D., Ed.D. (University of Massachusetts)
Assistant Professor of Education (1974-1975).

SELF, MORRIS WALDT, Ph.D. (University of Minnesota)
Professor of Civil Engineering (1966-1966).

SELFRIDGE, RALPH G., Ph.D. (University of Oregon)
Professor of Computer and Information Sciences, College of Engineering (1961-1965).

SELMAN, KELLY E., Ph.D. (Harvard University)
Assistant Professor of Anatomy (1974-1974).

SENTERFITT, VERNON, M.S. (University of Florida)
Director of Teaching Laboratory Resources, J. Hillis Miller Health Center (1968-1974).

SEVER, JOSEPH C., Ph.D. (University of Iowa)
Assistant Professor of Speech (1976-1976).

SEVERY, LAWRENCE J., Ph.D. (University of Colorado)
Associate Professor of Psychology (1971-1971).

SEYMOUR, CARTER PURNELL, M.S.
Professor (Associate Plant Pathologist) Div. of Plant Industry, IFAS (1968-1970).

SEYMOUR, FRANK C., M.S. (University of Massachusetts)
Associate Research Professor of Botany (1974-1974).

SEYMOUR, SANDRA F., M.N. (University of Florida)
Assistant Professor, College of Nursing (1969-1976) *

SHAAK, GRAIG D., Ph.D. (University of Pittsburgh)
Assistant Curator of Invertebrate Paleontology, Fla. State Museum, Assistant Professor of Zoology and Geology (1972-1972).

SHAARA, RICHARD BENSON, M.D. (University of Texas)
Director, Student Health Service (1969-1974).

SHAFFER, CHARLES VERNON, Ph.D. (Stanford University)
Professor of Electrical Engineering (1946-1966).

SHAH, DINESH D., Ph.D. (Columbia University)
Professor of Anesthesiology and Chemical Engineering (1970-1975).

SHANDS, JOSEPH W., JR., M.D. (Duke University)
Professor and Chief of Infectious Diseases (1961-1970).

SHANNON, GARY WILLIAM, Ph.D. (University of Michigan)
Associate Professor of Geography (1971-1971).

SHANOR, LELAND, Ph.D. (University of North Carolina) D.Sc. (Illinois Wesleyan University)
Professor of Botany (1965-1965).

SHARP, BERT LAVON, Ed.D. (University of Florida)
Dean, College of Education and Professor of Education (1956-1958). *

SHARP, DANIEL COMPTON, III. Ph.D. (Univ. of Massachusetts)
Assistant Professor (Assistant Physiologist), IFAS (1973-1973).

SHARP, JENNIFER, Ph.D. (University of Hawaii)
Assistant Professor of Entomology, IFAS (1972-1972).

SHARPE, MILES HERVEY, Ph.D. (Pennsylvania State University)
Professor, Editor, Editorial Department, IFAS (1955-1961).

SHAW, HARRY, Ph.D. (University of Illinois)
Acting Associate Dean of University College and Assistant of English (1973-1973).

SHAW, LAWRENCE NEIL, Ph.D. (Ohio State)
Associate Professor (Associate Agricultural Engineer), IFAS, (1969-1974).

SHAW, LELAND G., M.Arch.
Professor of Architecture (1964-1976).

SHAW, MARVIN EVERT, Ph.D. (University of Wisconsin)
Professor of Psychology (1959-1962).

SHEA, JOSEPH J., Ph.D. (University of Michigan)
Associate Professor in Education (1967-1971).

SHEEHAN, MARION RUFF, M.S. (Cornell University)
Assistant Professor in Ornamental Horticulture, IFAS (1972-1972).

SHEEHAN, THOMAS JOHN, Ph.D. (Cornell University)
Professor (Ornamental Horticulturist), IFAS (1954-1967).

SHELTON, DAVID LESLIE, Ph.D. (University of Missouri)
Assistant Professor of Theatre (1974-1974).

SHEMDIN, OMAR H., Ph.D. (Stanford University)
Professor of Coastal and Oceanographic Engineering Laboratory; Professor of Engineering Sciences (1967-1974).

SHENKMAN, FREDERICK ALAN, Ed.D. (University of Florida)
Assistant Professor of Social Sciences and Education (1969-1971).

SHEPPARD, DONALD MAX, Ph.D. (Arizona State University)
Associate Professor of Coastal and Oceanographic Engineering Laboratory; Associate Professor of Engineering Sciences (1968-1976).

SHER, HARVEY B., M.D. (University of Florida)
Instructor of Medicine (JHEP) (1975-1975).

SHERMAN, ROBERT R., Ed.D. (Rutgers University)
Associate Professor and Chairperson of Education Foundations (1967-1975).

SHERMAN, WAYNE BUSH, Ph.D. (Purdue University)
Associate Professor of Fruit Crops (Associate Horticulturist), IFAS (1966-1972).

SHERRARD, KATHERYN J., M.A. (University of Florida)
Teacher, P.K. Yonge Laboratory School (1976-1976).

SHIELDS, DOROTHY ANN, M.Ed.
Associate Professor of Physical Education (1962-1975).

SHIELDS, ROBERT P., D.V.M., Ph.D. (Auburn University)
Associate Professor of Comparative Medicine (1973-1973).

SHIH, SUN-FU, Ph.D. (North Carolina State University)
Associate Professor (Associate Agricultural Engineer), IFAS, Agricultural Research and Education Center, Belle Glade (1976-1976).

SHIREMAN, JEROME VERN, Ph.D. (Iowa State University)
Assistant Professor in Fisheries Science, IFAS (1973-1973).

SHIRLEY, RAY LOUIS, Ph.D. (Michigan State)
Professor of Animal Science (Animal Nutritionist) IFAS (1949-1953).

SHOEMYN, MARGARET CLARE, M.A.O.T. (London School of Occupational Therapy)
Instructor of Occupational Therapy; V.A. (1964-1974), Clinics (1964-1966).

SHORT, DONALD EUGENE, Ph.D. (University of Nebraska)
Associate Professor (Associate Entomologist), IFAS (1970-1975).

SHORTRIDGE, KAREN ANN, M.Ed.
Residence Life Coordinator, Student Housing (1974-1974).

SHOWALTER, ROBERT KENNETH, M.S. (Purdue University)
Professor (Horticulturist), IFAS (1945-1956).

SHREVE, WILLIAM B. JR., D.D.S. (Case Western Reserve University), M.A. (Roosevelt University)
Assistant Dean for Advanced Education and Associate Professor of Basic Dental Sciences, College of Dentistry (1975-1975).

SHRYOCK, EDWIN F., D.D.S., M.S. (Loma Linda University)
Associate Professor and Chairman of Occlusion and Fixed Prosthodontics, College of Dentistry (1972-1974).

SHULER, AUDIE IRWIN, B.A.
Director, Security Service (1962-1962).

SHULMAN, STANFORD T., M.D. (University of Chicago)
Associate Professor of Pediatrics (1973-1975).

SHUMAKER, JAMES R., Ph.D. (University of Minnesota)
Associate Professor (Associate Horticulturist), IFAS, Agricultural Research Center, Hastings (1967-1973).

SHUSTER, JONATHAN J., Ph.D. (McGill University)
Associate Professor of Statistics (1969-1974).

SIDERS, MARY B., M.A. (Ball State Univ.)
Teacher, P.K. Yonge (1975-1975).

SIDERS, RONALD ALLEN, Ph.D. (University of Oregon)
Assistant Professor of Professional Physical Education (1974-1974).

SIEG, KAY W., M.Ed. (University of Florida)
Associate Professor of Occupational Therapy (1971-1976).

SIERAKOWSKI, ROBERT L., Dr.Eng. (Yale University)
Professor of Engineering Sciences (1967-1973).

SIGMON, KERMIT N., Ph.D. (University of Florida)
Assistant Professor of Mathematics (1966-1966).

SILHACEK, DONALD L., Ph.D. (University of Wisconsin)
Associate Professor of Entomology USDA, IFAS (1970-1970).

SILVERMAN, DAVID N., Ph.D. (Columbia University)
Associate Professor of Pharmacology, Therapeutics, Biochemistry and Molecular Biology (1971-1976).

SIMMONS, JOHN K., Ph.D. (Ohio State University), C.P.A. (Kansas)
Professor of Accounting and Chairperson of Department of Accounting (1974-1974).

SIMMONS, WILLIE J., M.S.
Director, Institute of Black Culture (1975-1975).

SIMON, THOMAS W., Ph.D. (Washington University)
Assistant Professor of Philosophy and Linguistics (1973-1973).

SIMPSON, CHARLES FLOYD, D.V.M. (Cornell University) (University of Minnesota)
Assistant Dean for Research and Professor (Pathologist), College of Veterinary Medicine-IFAS (1948-1973).

SIMS, GEORGE RUDD, M.B.S.
College Placement Officer and Coordinator of Cooperative Programs, College of Business Administration (1957-1974).

SINCLAIR, LARRY RAY, Ph.D. (University of Idaho)
Assistant Professor (Assistant Agricultural Engineer). IFAS, Agricultural Research and Education Center, Sanford (1973-1973).

SINGLETON, GEORGE T., M.D. (Baylor University)
Professor of Surgery and Interim Hospital Director, Shands Teaching Hospital and Clinics (1961-1975). Affairs, College of Medicine (1961-1975).

SINGLEY, J. EDWARD, Ph.D. (University of Florida)
Professor of Environmental Engineering Sciences and Professor of Chemistry (1967-1970).

SISLER, HARRY HALL, Ph.D. (University of Illinois)
Dean of the Graduate School, Director of Sponsored Research and Professor of Chemistry (1956-1973).

SIVAZLIAN, BOGHOS D., Ph.D. (Case Institute of Technology)
Professor of Industrial and Systems Engineering (1966-1972).

SKELLEY, ROBERT CHARLES, M.F.A.
Associate Professor of Art (1962-1970).

SKINNER, THOMAS COBB, M.Ag.
Professor (Agricultural Engineer) IFAS (1947-1964).

SKOVHOLT, THOMAS M., Ph.D. (University of Missouri)
Assistant Professor of Behavioral Studies, Psychology and Counselor Education (1973-1973).

SLAGLE, JOHN, Ph.D. (University of Washington)
Assistant Professor of Mathematics (1973-1973).

SLAUGHTER, JOHN EIDELL, M.A.
Assistant Professor of Social Sciences and History (1959-1964).

SLAYMAKER, CAROLYN J., M.A. (New York University)
Associate Professor of Occupational Therapy (1966-1970). •

SLEDJESKI, STEPHEN S., Ed.S. (U. of Fl.)
Assistant Professor, P. K. Yonge (1975-1976).

SLOAN, DONALD R., B.S.
Systems Coordinator, Planning and Budgeting Section, Office of Vice President for Health Affairs (1976-1976).

SMALL, PARKER ADAMS, JR., M.D. (University of Cincinnati)
Professor of Immunology and Medical Microbiology (1966-1966).

SMALL, RICHARD P., B.S. (Washington State University)
(Agricultural Statistician), IFAS (1976-1976).

SMALL, TERRENCE SAMUEL, M.A. Mus. Ed.
Professor of Music (1964-1975).

SMART, GROVER C., JR., Ph.D. (University of Wisconsin)
Professor (Nematologist), IFAS (1964-1973).

SMERAGE, GLEN HUNTINGTON, Ph.D. (Stanford University)
Associate Professor (Associate Agricultural Engineer), IFAS (1976-1976).

SMIDT, ROBERT K., Ph.D. (University of Wyoming)
Assistant Professor of Statistics (1976-1976).

SMITH, ALAN JOHN, Ph.D. (University of Florida)
Adj. Assistant Professor of Instructional Leadership and Support (1976-1976).

SMITH, ALBERT B., Ph.D. (University of North Carolina)
Associate Professor of Romance Languages (1963-1970).

SMITH, ALBERT BARNES, III, Ph.D. (University of Michigan)
Associate Professor of Education (1970-1975).

SMITH, ALEXANDER GOUDY, Ph.D. (Duke University)
Professor of Physics and Astronomy (1948-1956).

SMITH, BRYAN C., Ed.D. (University of Oregon)
Associate Professor of Health Education (1969-1969).

SMITH, CECIL NUCKOLS, Ph.D. (University of California)
Professor, Food and Resource Economics Department, IFAS (1952-1963). *

SMITH, DAVID THORNTON, J.D. (Boston University)
Professor of Law (1968-1969).

SMITH, DOUGLAS LEE, Ph.D. (University of Minnesota)
Assistant Professor of Geology (1972-1972).

SMITH, EMMETT DAN, Ph.D. (Ohio State University)
Associate Professor of Accounting (1970-1976).

SMITH, ERNEST B., M.S. (Mississippi State University)
Agricultural Economist (Instructor of Agricultural Economics), USDA, IFAS (1974-1974).

SMITH, HALBERT C., D.B.A. (University of Illinois)
Professor of Real Estate and Urban Analysis; Acting Chairperson of Finance, Insurance and Real Estate (1971-1971).

SMITH, HERRICK HAYNER, M.S., M.L.A.
Program Director and Professor of Landscape Architecture (1966-1971).

SMITH, JACK REGINALD, Ph.D. (University of Southern California)
Professor of Electrical Engineering and Psychiatry (1964-1970).

SMITH, JAMES HUNN, M.S.M.E. (University of Florida)
Assistant Professor of Mechanical Engineering (1947-1952).

SMITH, JO ANNE, M.A.
Professor of Journalism and Communications (1959-1976). *

SMITH, KENNETH L., Ph.D. (University of Missiouri)
Associate Professor (Microbiologist) and Associate Professor, Microbiology and Soil Science, IFAS (1960-1966).

SMITH, LAWRENCE L., Ph.D. (University of Illinois)
Assistant Professor (1974-1974).

SMITH, LEIGHTON D. (Georgetown University)
Professor of Naval Science (1976-1976).

SMITH, MICHAEL J., M.A. (Bishop's University)
Assistant Professor of Computer and Information Sciences, College of Engineering (1975-1975).

SMITH, PAUL H., Ph.D. (University of California)
Chairperson and Professor, Microbiology and Cell Science, Arts and Sciences; Microbiologist, IFAS (1959-1969).

SMITH, PHILLIP C. (University of Cincinnati)
Assistant Professor of Radiology (1975-1975).

SMITH, QUENTIN M., D.D.S. (University of Tennessee), M.P.H. (University of Michigan)
Professor of Community Dentistry, College of Dentistry. (1969-1969)

SMITH, REX LANEL, Ph.D. (Iowa State University)
Associate Professor (Associate Agronomist), IFAS (1968-1973).

SMITH, RICHARD CLARK, Ph.D. (Duke University)
Associate Professor of Botany, Arts and Sciences (1964-1971).

SMITH, RICHARD T., M.D. (Tulane University)
Professor and Chairperson of Pathology and Director of the C.V. Whitney Marineland Laboratory (1958-1967).

SMITH, R. GREGORY, D.D.S. (Ohio State University)
Assistant Professor of Oral Medicine, College of Dentistry (1976-1976).

SMITH, ROBERTS COLES, JR., B.A. (University of Florida)
Assistant Professor (Assistant Editor), IFAS (1961-1961).

SMITH, STANLEY K., Ph.D. (University of Michigan)
Assistant Professor of Economics; Assistant Professor, Bureau of Economic and Business Research (1976-1976).

SMITH, W. MARTIN, JR., B.A.
Professional Insurance Coordinator, J. Hillis Miller Health Center Insurance Trust Fund (1975-1975).

SMITH, WAYNE H., Ph.D. (Mississippi State University)
Professor and Assistant Director (Forest Nutritionist), IFAS (1964-1970).

SMITH, WILLIAM HOWARD, P.Ed.
Associate Professor, Extension District Agent, IFAS (1958-1971).

SMITHERMAN, JOHN A., M.S. (Texas A&M University)
Colonel, U.S. Air Force, Professor of Aerospace Studies (1976-1976).

SMITTLE, BURRELL JOE, Ph.D. (Rutgers University)
Professor of Entomology and Medical Entomologist, USDA Entomology Research Laboratory (1965-1965).

SMUTZ, MORTON, Ph.D. (University of Wisconsin)
Professor of Chemical Engineering; Associate Dean for Research, College of Engineering; Associate Director, Engineering and Industrial Experiment Station; Director, Coastal and Oceanographic Engineering Lab (1969-1969).

SNIDER, M. JOSEPHINE, Ed.D. (University of Florida)
Coordinator, R.N. Program and Assistant Professor, College of Nursing (1965-1976). *

SNODGRASS, CHRIS G., Ph.D. (State University of New York at Buffalo)
Assistant Professor of English (1973-1974).

SNOWBALL, DOUGLAS A. T., Ph.D. (University of Washington)
Assistant Professor of Accounting (1975-1975).

SNYDER, GEORGE H., Ph.D. (Ohio State University)
Associate Professor (Associate Soils Chemist), IFAS, Agricultural Research and Education Center, Belle Glade (1967-1973).

SOAR, ROBERT STEPHEN, Ph.D. (University of Minnesota)
Professor of Education (1966-1966).

SOARES, GLAUCIO ARY DILLON, Ph.D. (Wash. Univ., St. Louis)
Professor of Latin American Studies and Sociology (1974-1975).

SOLER, GLADYS P., M.D. (University of Havana)
Assistant Professor of Pediatrics (JHEP) (1971-1974).

SOLIS, MANUEL MAURICIO, M.S.
Associate Professor of Architecture (1969-1975).

SOMMERVILLE, C. JOHN, Ph.D. (University of Iowa)
Assistant Professor of History (1971-1971).

SONODA, RONALD MASAHIRO, Ph.D. (University of California)
Associate Professor (Associate Plant Pathologist), IFAS, Agricultural Research Center, Ft. Pierce (1969-1974).

SORENSON, HERBERT W., D.D.S. (University of Toronto)
Associate Professor of Pediatric Dentistry, College of Dentistry (1975-1975).

SOULE, JAMES, Ph.D. (University of Florida)
Professor of Fruit Crops (Horticulturist), IFAS (1956-1967).

SPANGLER, BYRON DEMENT, M.S.E. (University of Florida)
Professor of Civil Engineering (1949-1971).

SPANGLER, DANIEL PATRICK, Ph.D. (University of Arizona)
Assistant Professor of Geology (1973-1975).

SPANIER, JOHN WINSTON, Ph.D. (Yale University)
Professor of Political Science (1957-1967). *

SPANIER, SUZANNE O., M.D. (University of Florida)
Assistant Research Scientist of Orthopaedic Surgery (1975-1975).

SPARKS, LINDA FRANCES, M.S. in L.S.
Associate Librarian, Education Library (1961-1970).

SPELLACY, WILLIAM N., M.D. (University of Minnesota)
Professor and Chairperson, Obstetrics and Gynecology (1973-1973).

SPINKS, DANIEL O., Ph.D. (North Carolina State University)
Professor and Associate Dean for Resident Instruction, IFAS (1947-1969).

SPRING, ANITA, Ph.D. (Cornell University)
Assistant Professor of Behavioral Studies and Anthropology (1973-1975).

SPURLOCK, CARL W., Ph.D. (University of Oklahoma)
Assistant Professor of Geography (1972-1972).

SQUILLACE, ANTHONY E., Ph.D. (University of Florida)
Professor, (Forestry Experiment Station, Olustee) USDA, IFAS (1965-1965).

SRYGLEY, TED FILO, M.S.
Director, J. Hillis Miller Health Center Library (1966-1966).

ST. JACQUES, ERNEST HOWARD, Ph.D. (George Peabody College)
Dean of Academic Affairs for Matriculation Services and Associate Professor of Social Sciences (1969-1973).

STAHMER, HAROLD M., Ph.D. (Cambridge University)
Associate Dean of the College of Arts and Sciences and Professor of Religion and Philosophy (1969-1969).

STAINSBY, WENDELL N., Sc.D. (Johns Hopkins University)
Professor of Physiology (1957-1969).

STALDER, MARGARET T., B.A. (University of Florida)
Visiting Teacher, P.K. Yonge Laboratory School (1976-1976).

STALL, ROBERT EUGENE, Ph.D. (Ohio State University)
Professor of Plant Pathology, IFAS (1957-1969).

STALNAKER, THOMAS G., B.A.
Professional Insurance Coordinator, J. Hillis Miller Health Center Insurance Trust Fund (1976-1976).

STAMAN, DAIVA TUCKER, M.L.S. (Drexel University)
Assistant Librarian, Reference and Bibliography (1975-1975).

STANDLEY, GERALD BRENT, Ph.D. (University of Buffalo)
Professor of Behavioral Studies and Philosophy (1960-1968).

STANG, JACK R., Ph.D. (Oregon State University)
Assistant Professor (Assistant Horticulturist), IFAS (1975-1975).

STANLEY, HAROLD R., D.D.S. (University of Maryland), M.S. (Georgetown University)
Professor and Chairman of Oral Medicine, College of Dentistry and Professor of Pathology, College of Medicine (1968-1973). College of Medicine (1968-1970).

STANLEY, JAMES MIDDLETON, M.S. (Virginia Polytechnic)
Professor (Agricultural Engineer), USDA, IFAS (1973-1973).

STANLEY, ROBERT LEE, JR., Ph.D. (University of Georgia)
Associate Professor (Associate Agronomist), IFAS, Agricultural Research and Education Center, Quincy (1968-1975).

STARNES, EARL MAXWELL, M.S.
Program Director and Professor of Urban and Regional Planning (1976-1976)

STARNES, PAUL M., Ph.D. (University of Florida)
Vis. Assistant Professor of Administration & Supervision (1976-1976).

STASHAK, TED S., D.V.M. (University of California at Davis), M.S. (Colorado State University)
Assistant Professor, College of Veterinary Medicine (1976-1976).

STEELE, KATHERINE L., Ed.D. (University of Florida)
Associate Director, Office of Instructional Resources (1974-1974).

STEIN, GARY S., Ph.D. (University of Vermont)
Associate Professor of Biochemistry and Molecular Biology (1972-1975).

STEIN, GERALD H., M.D. (University of Pennsylvania)
Assistant Professor of Medicine (VAH) and Community Health and Family Medicine (1969-1972).

STEPHENS, FOY WOODROW, M.P.H.
Associate Professor of Physical Education (1952-1976).

STEPHENS, JAMES MORRIS, M.S.A. (University of Florida)
Associate Professor (Extension Vegetable Specialist), IFAS (1962-1974).

STEPHENS, RICHARD BADENOCH, LL.B. (University of Michigan)
Professor of Law (1949-1954).

STEPHENSON, SAM E., JR., M.D. (Vanderbilt University)
Professor and Chairperson, Department of Surgery (JHEP) (1967-1970).

STERRETT, DELBERT ELLINGSWORTH, Ed.D.
Associate Professor of Music (1948-1970).

STETSON, CHANDLER A., JR., M.D. (Harvard University)
Vice President for Health Affairs; Dean of College of Medicine; and Professor of Pathology (1972-1974).

STEWARD, KERRY KALEN, Ph.D. (University of Connecticut)
Assistant Professor (Assistant Plant Physiologist), IFAS, USDA, Agricultural Research Center, Ft. Lauderdale (1967-1967).

STEWART, B., M.A.
Counsellor Coordinator, DSSSP.

STEWART, ERNEST HAROLD, M.S. (Auburn University)
Associate Professor, (Associate Soils Physicist), IFAS, USDA, Agricultural Research Center, Ft. Pierce (1960-1960).

STEWART, FRED J., Ph.D. (University of Kentucky)
Assistant Professor (Agricultural Economist)

STEWART, IVAN, Ph.D. (Rutgers University)
Professor (Biochemist), IFAS, Agricultural Research and Education Center, Lake Alfred (1951-1961).

STEWART, RONALD BROR, M.S.P.
Associate Professor of Clinical Pharmacy (1963-1975).

STITT, STEPHEN D., J.D. (University of Michigan)
Associate Professor of Law (1972-1972).

STOECKEL, JAY EDWIN, M.Arch.
Assistant Professor of Architecture (1975-1975).

STOKES, DONALD EUGENE, Ph.D. (University of Florida)
Assistant Professor of Nematology, DPI, IFAS (1973-1973).

STONE, WILLIAM K., A.B. (Harvard College)
Associate Director of Development for Planned Giving (1973-1973).

STONE, WILLIARD E., Ph.D. (U. of Pennsylvania), C.P.A. (Pennsylvania)
Professor of Accounting (1960-1960).

STOUFER, ROBERT CARL, Ph.D. (Ohio State University)
Associate Professor of Chemistry (1958-1967).

STOUT, FRANK W., D.D.S. (University of Detroit)
Associate Professor of Oral Medicine, College of Dentistry (1972-1972). 5

STRAIN, J. ROBERT, Ph.D. (Oregon State University) M.S. (Western Reserve Univ.).
Professor (Extension Economist) Food and Resource Economics Department, IFAS (1976-1976).

STRANAHAN, ALLAN, M.D. (University of Tennessee)
Professor of Surgery (JHEP) (1974-1974).

STRANDBERG, JAMES OLIVER, Ph.D. (University of Wisconsin)
Associate Professor (Associate Plant Pathologist), IFAS, Agricultural Research and Education Center, Sanford (1967-1973).

STRAUGHN, ALTO ALFRED, Ph.D. (University of Wisconsin)
Associate Professor (Director, Program, Evaluation and Organizational Development), IFAS (1965-1973).

STRAUS, BARRIE RUTH, Ph.D. (University of Iowa)
Assistant Professor of English (1973-1974).

STRAYER, JOHN ROBERT, Ph.D.
Professor and Extension District Agent (1965-1975).

STREET, JIMMY JOE, Ph.D. (Colorado State University)
Assistant Professor of Soil Science (Soil Extension), IFAS (1976-1976).

STREIB, GORDON F., Ph.D. (Columbia University)
Graduate Research Professor (1975-1975).

STREIFF, RICHARD R., M.D. (University of Basel)
Professor of Medicine and Chief of Medical Services, VAH (1967-1974).

STRICKLAND, ALBERT CARSON, M.S. (Florida State University)
Librarian, IFAS (1958-1973).

STRINGFELLOW, HART R., M.Ed., Ph.D. (University of Florida)
Assistant Professor of Oral Medicine and Dental Education, College of Dentistry (1975-1975).

STRIPLING, ROBERT OLIN, Ed.D. (Columbia University)
Distinguished Service Professor, Office of Planning and Information (1941-1974).

STROZIER, VIRGINIA RAGLAND, M.A. (University of Chicago)
Associate Professor, College of Nursing (1957-1976). *

STURGILL, CLAUDE C., Ph.D. (University of Kentucky)
Associate Professor of History (1969-1969).

SU, SIEW PHEK, M.S.
Assistant Librarian, IFAS (1970-1970). *

SU, STANLEY YUEH-WEI, Ph.D. (University of Wisconsin)
Associate Professor of Electrical Engineering and Speech (1970-1974).

SUAREZ, ANDRES, D.C.L. (University of Havana)
Professor of Latin American Studies, History, and Political Science (1965-1965).

SUCHMAN, DAVID I., Ph.D. (Ohio State University)
Counseling Psychologist, University Counseling Center; Associate Professor of Psychology (1967-1967).

SUGARMAN, BETTY, A.C.S.W. (Columbia University)
Instructor of Social Work in Psychiatry (1973-1973).

SULLIVAN, EDWARD THOMAS, D.F. (Duke University)
Associate Professor (Forest Economist), IFAS (1959-1959).

SULLIVAN, EILEEN, Ph.D. (University of Florida)
Assistant Professor of Behavioral Studies (1969-1970).

SULLIVAN, ROBERT LEE, Ph.D. (University of Florida)
Associate Professor of Electrical Engineering (1970-1975).

SULLIVAN, WILLIAM J., Ph.D. (Yale University)
Associate Professor of Russian and Linguistics (1970-1975).

SULLWOLD, ARTHUR F., M.D. (Louisiana State University)
Instructor of Psychiatry, VAH (1976-1976).

SUMMERS, THOMAS EUGENE, Ph.D. (University of Iowa)
Professor (Entomologist), IFAS, USDA (1966-1973).

SUMNER, HAROLD RALPH, M.S. (University of Kentucky)
Adjunct Assistant Professor (Assistant Agricultural Engineer) IFAS, USDA AREC-Lake Alfred (1968-1970).

SUNWALL, JAMES RAYMOND, Ph.D. (University of Iowa)
Professor of Humanities (1957-1971).

SURAK, JOHN GODFREY, Ph.D. (University of Wisconsin)
Assistant Professor (Assistant Food Toxicologist), IFAS (1974-1974).

SUSSMAN, LEWIS A., Ph.D. (University of North Carolina)
Associate Professor of Classics and Humanities (1976-1976).

SUTHERLAND, ALAN DURYEA, Ph.D. (University of Illinois)
Professor of Electrical Engineering (1958-1965). *

SUTHERLAND, ROBERT ALLEN, Ph.D. (University of Missouri)
Assistant Research Scientist (Radiation Physicist), IFAS (1974-1974).

SUTTON, DAVID LEE, Ph.D. (Virginia Polytechnic Institute)
Associate Professor (Associate Agronomist) Agricultural Research Center, Ft. Lauderdale (1970-1975).

SUZUKI, HOWARD K., Ph.D. (Tulane University)
Dean and Professor of College of Health Related Professions, (1970-1972).

SWAIN, RALPH W., Ph.D. (Cornell University)
Associate Professor of Industrial and Systems Engineering and Associate Director, Health Systems Research (1976-1976).

SWANSON, BERT E., Ph.D. (University of Oregon)
Professor of Political Science (1971-1971).

SWANSON, RICHARD M., Ph.D. (University of Colorado)
Associate Professor of Psychology (1972-1975).

SWINDEL, BENNE F., Ph.D. (North Carolina State University)
Adjunct Associate Professor, (USDA Forest Service), IFAS (1976-1976).

SYPERT, GEORGE W., M.D. (University of Washington)
Assistant Professor of Surgery and Neuroscience, and Chief of Neurological Surgery, VAH (1974-1974).

SYPERT, NANCY S., M.N. (University of Washington)
Instructor, College of Nursing (1975-1975).

TAFFEL, SUZANNE, Ph.D. (Suny-Stoney Brook)
Assistant Professor (1975-1975).

TALBERT, JAMES L., M.D. (Vanderbilt University)
Professor of Surgery and Pediatrics and Chief of Pediatric Surgery (1967-1970).

TAPPAN, WILLIAM BURGESS, M.S.A. (University of Florida)
Professor (Entomologist), IFAS, Agricultural Research and Education Center, Quincy (1955-1974).

TARJAN, ARMAN CHARLES, Ph.D. (University of Maryland)
Professor (Nematologist), IFAS, Agricultural Research and Education Center, Lake Alfred (1955-1958). *

TARRANT, PAUL, Ph.D. (Duke University)
Professor of Chemistry (1946-1957).

TATE, ROBERT LEE, III, Ph.D. (University of Wisconsin)
Assistant Professor (Assistant Microbiologist), IFAS, Agricultural Research and Education Center, Belle Glade and Assistant Professor of Microbiology, Arts and Sciences (1975-1975).

TATE, SUSAN DOUGLAS, M.D., M.Arch.
Assistant Professor of Interior Design (1972-1976).

TAYLOR, CAROLYN D., M.A. (London University)
Assistant Professor, College of Nursing (1959-1974).

TAYLOR, CLIFTON L., Ph.D. (University of Wisconsin)
Assistant Professor (Extension Program Specialist), IFAS (1975-1975).

TAYLOR, DEAN G., Ph.D. (University of Chicago)
Associate Professor of Finance (1971-1976).

TAYLOR, FRANK H. G.
Associate Professor of Humanities (1964-1968).

TAYLOR, GRACE W., J.D. (University of Florida)
Director of Law Libraries (1950-1973).

TAYLOR, SENETTA B., M.A.
Counseling Psychologist, University Counseling Center (1970-1970).

TAYLOR, WILLIAM JAPE, M.D. (Harvard University)
Distinguished Service Professor of Medicine (1958-1974).

TEAGUE, PERRY O., Ph.D. (University of Oklahoma)
Associate Professor of Pathology and Oral Medicine (1968-1973).

TEAS, DONALD CLAUDE, Ph.D. (University of Texas)
Professor of Speech and Psychology (1967-1971).

TEEM, DAVID H., Ph.D. (Auburn University)
Assistant Professor (Weed Specialist) (1976-1976).

TEFERTILLER, KENNETH RAY, Ph.D. (University of Illinois)
Professor (Economist) and Vice President for Agricultural Affairs, IFAS (1965-1973).

TEICHMAN, RONALD J., Ph.D. (Northwestern University)
Assistant Professor of Accounting (1971-1971).

TENNANT, LEO KEITH, Ed.S. (University of Florida)
Assistant Professor of Professional Physical Education (1967-1972).

TEPLY, MARK LAWRENCE, Ph.D. (University of Nebraska)
Associate Professor of Mathematics (1968-1973).

TERHUNE, FRANCES W., Ph.D. (University of Florida)
Assistant in Research, Bureau of Economic and Business Research (1976-1976).

TERHUNE, JAMES L., Ph.D. (Indiana University)
Associate Professor of Journalism and Communications and Chairman, Departments of Advertising and Public Relations (1967-1976). *

TERRELL, TIMOTHY G., D.V.M. (Texas A&M University)
Ph.D. (University of California at Davis) Assistant Professor, College of Veterinary Medicine and Department of Pathology, College of Medicine (1976-1976).

TERRELL, WILLIAM REED, Ph.D. (Michigan State University)
Assistant Professor of Education (1973-1974).

TERRY, JUAN E., M.S.L.S.
Assistant Librarian, J. Hillis Miller Health Center Library (1968-1968).

TESAR, DELBERT, Ph.D. (Georgia Institute of Technology)
Professor of Mechanical Engineering; Professor of Engineering Sciences (1964-1969).

TEW, ROY EDWARDS, Ph.D. (Ohio State University)
Professor of Speech (1937-1966). *

THAR, TIMOTHY L., M.D. (Johns Hopkins University)
Assistant Professor of Radiation Therapy (1976-1976).

THATCHER, WILLIAM WATTERS, Ph.D. (Michigan State University)
Associate Professor (Animal Physiologist), IFAS (1969-1974).

THEISS, CHARLENE GAY, Ed.S. (University of Florida)
Visiting Teacher, P.K. Yonge Laboratory School (1976-1976).

THOMAS, BILLY SEAY, Ph.D. (Vanderbilt University)
Associate Professor of Physics (1960-1976).

THOMAS, CURLEW O., Ph.D. (Louisiana State University)
Assistant Professor of Afro-American Studies and Sociology (1974-1974).

THOMAS, DARRYL L., Ph.D. (University of California)
Assistant Professor (Assistant Pathologist), IFAS, Agricultural Research Center, Ft. Lauderdale (1972-1972).

THOMAS, MICHAEL E., Ph.D. (Johns Hopkins University)
Professor of Industrial and Systems Engineering and Chairperson of the Department (1965-1972).

THOMAS, ROBERT E., M.A. (University of Florida)
Assistant Professor, Editorial, IFAS (1974-1974).

THOMAS, VIRGINIA RUTH, A.M.L.S.
Assistant Chairperson of Computerized Cataloging (1974-1975).

THOMAS, WILLIAM CLARK, JR., M.D. (Cornell University)
Professor of Medicine and Associate Director for Research, VAH (1957-1973).

THOMPSON, BUFORD DALE, Ph.D. (University of Florida)
Professor (Horticulturist), IFAS, (1948-1966). *

THOMPSON, FLOYD J., Ph.D. (Indiana University)
Assistant Professor of Veterinary Medicine and Neuroscience (1974-1974).

THOMPSON, FRED GILBERT, Ph.D. (University of Miami)
Associate Curator of Malacology, Florida State Museum (1966-1973).

THOMPSON, IRENE, M.A. (New York University)
Associate Professor of English (1967-1975).

THOMPSON, JOHN B., III, M.P.H.
Assistant Coach (1966-1966).

THOMPSON, NEAL PHILIP, Ph.D. (Princeton University)
Associate Professor (Associate Biochemist), IFAS (1965-1972).

THOMPSON, RALPH BURNHAM, Ph.D. (University of Texas)
Professor of Marketing; Professor, Bureau of Economic and Business Research (1955-1960). *

THOMPSON, ROBERT J., M.D. (Wayne State University)
Associate Professor and Chairperson, Department of Obstetrics and Gynecology (JHEP) (1970-1970).

THOMSON, ROBERT S., Ph.D. (Cambridge University)
Assistant Professor of English (1974-1974).

THOMPSON, ROGER M., Ph.D. (University of Texas)
Associate Professor of English and Linguistics (1971-1976).

THOMPSON, VICTOR A., Ph.D. (Columbia University)
Professor of Political Science and Chairperson of the Department (1971-1975).

THURSBY, GENE ROBERT, Ph.D. (Duke University)
Associate Professor of Religion (1970-1976).

TICER, JAMES W., D.V.M. (University of California at Davis), Ph.D. (Colorado State University)
Professor, College of Vet Med and Dept of Radiology, College of Medicine; and Chief-of-Staff, Veterinary Medical Teaching Hospital (1976-1976).

TILLEY, DANIEL STEPHEN, Ph.D. (Iowa State University)
Assistant Professor (Assistant Marketing Economist), DC, IFAS (1974-1974).

TILLMAN, CHESTER EARL, Ed.D. (University of Florida)
Associate Professor of English and Education (1967-1973).

TILLMAN, WILEY JAMES, JR., M.Arch.
Associate Professor of Architecture (1952-1968). *

TIMMERMAN, MELVIN EUGENE, Ph.D. (University of South Carolina)
Assistant Professor of Education (1960-1960).

TING, SIK YUNG, Ph.D. (Ohio State University)
Adjunct Professor (Biochemist), IFAS, DC, AREC-Lake Alfred (1952-1968).

TISON, JEAN PIEPER, M.A.E. (University of Florida)
Assistant Professor in Education (1936-1976).

TJIA, BENNY O., Ph.D. (Ohio State University)
Assistant Professor (Extension Floriculture Specialist), IFAS (1975-1975).

TOBEY, FRANK L., Ph.D. (University of Michigan)
Assistant Professor of Ophthalmology (1974-1974).

TOBIAS, JOEL A., M.D. (University of Pennsylvania)
Assistant Professor of Surgery, VAH (1972-1972).

TOBIN, LEE M., B.S. (University of Florida)
Assistant Sports Information Director (1975-1975).

TODA, YASUSHI, Ph.D. (Harvard University)
Assistant Professor of Economics (1974-1974).

TODD, EUGENE ALLEN, Ed.D. (University of Houston)
Chairperson and Professor of Education (1965-1971).

TOLBERT, ELIAS LAKE, Ed.D. (Columbia University)
Associate Professor of Education (1967-1968).

TOROSIAN, GEORGE, Ph.D. (University of Wisconsin)
Associate Professor of Pharmacy (1969-1974).

TOSKES, PHILIP P., M.D. (University of Maryland)
Associate Professor of Medicine, VAH (1973-1975).

TOU, JULIUS T., Ph.D. (Yale University)
Director, Center for Information Research, and Graduate Research Professor of Electrical Engineering (1967-1967).

TOWNSEND, KENNETH GRAHAM, B.S. (University of Florida)
Assistant in Extension Entomology, Agricultural Research Center, Lake Alfred, IFAS (1973-1973).

TRACEY, VINCENT GREGORY, M.S.
Associate Professor of Building Construction (1973-1973).

TRAMMELL, ALLEN R., B.S.
Assistant Coach (1972-1972).

TRASK, MARK J., B.A. (Bradley University)
Systems Coordinator (1975-1975).

TRAVIS, DAVID M., M.D. (Vanderbilt University)
Professor of Pharmacology and Therapeutics (1958-1974).

TRICKEY, SAMUEL BALDWIN, Ph.D. (Texas A&M University)
Associate Professor of Physics (1968-1973).

TRIMMER, J. MORRIS, M.B.A.
Associate Professor of Building Construction (1958-1975). *

TROBE, JONATHAN D., M.D. (Harvard Medical School)
Assistant Professor and Chief of Opthalmology, VAH (1974-1975).

TROUPIN, EDWARD CHARLES, M.M.
Professor of Music (1960-1968).

TRUEBLOOD, FELICITY, M.A.
Associate Research Scholar of Latin American Studies and History (1964-1976).

TSAI, JAMES HSI-CHO, Ph.D. (Michigan State University)
Assistant Professor (Assistant Entomologist), IFAS, Agricultural Research Center, Ft. Lauderdale (1973-1973).

TSIBRIS, JOHN C.M., Ph.D. (Cornell University)
Assistant Professor of Biochemistry and Molecular Biology (1971-1971).

TUCKER, CAROLYN M., Ph.D. (State University of New York)
Visiting Assistant Professor of Behavioral Studies (1976-1976).

TUCKER, DAVID P., Ph.D. (University of California-Riverside)
Associate Professor of Fruit Crops (Extension Horticulturist), (1966-1972).

TUCKER, WILLIAM B., M.D. (University of Chicago)
Professor of Medicine (1970-1970).

TUMLINSON, JAMES H. III, Ph.D. (Mississippi State University)
Associate Professor of Entomology USDA, IFAS (1970-1970).

TURNER, EDWARD C., Ph.D. (Michigan State University)
Assistant Professor of Education (1972-1974).

TURNER, ELDON R., Ph.D. (Kansas State University)
Assistant Professor of History (1969-1969).

TURNER, I. DOUGLAS, B.S.
Director of Student Financial Affairs (1965-1967).

TURNER, JOAN G., M.S.N. (University of Maryland)
Assistant Professor, College of Nursing (1976-1976).

TWITCHELL, JAMES B., Ph.D. (University of North Carolina)
Associate Professor of English (1973-1976).

TYLER, MAX E., Ph.D. (Ohio State University)
Professor, Microbiology and Cell Science, Arts and Sciences; Microbiologist, IFAS (1953-1953).

TYLER, VERONICA, Artist Diploma
Associate Professor of Music (1974-1974).

TYLER, WILLIAM GURDON, III, Ph.D. (Fletcher School of Law and Diplomacy, Tufts University)
Associate Professor of Economics (1969-1969). *

TYNER, MACK, Ph.D. (University of Cincinnati)
Professor of Chemical Engineering (1944-1956).

TYSSELAND, MILFORD S., Ph.D. (University of Minnesota)
Associate Professor of Finance (1968-1968). *

UELSMANN, JERRY NORMAN, M.S., M.F.A.
Graduate Research Professor of Art (1960-1974). *

ULAM, STANISLAW MARCIN, Ph.D. (Polytechnic Institute in Lwow Poland)
Graduate Research Professor of Mathematics (1973-1973).

ULMER, GREGORY, Ph.D. (Brown University)
Assistant Professor of Humanities (1972-1972).

UMAN, MARTIN ALLAN, Ph.D. (Princeton University)
Professor of Electrical Engineering and Physics (1972-1972).

UNDERBERGER, HOWARD LLOYD, M.S.
Associate Professor of Building Construction (1971-1976).

UNLUATA, UMIT A., Ph.D. (MIT)
Assistant Professor of Coastal and Oceanographic Engineering Laboratory; Assistant Professor of Engineering Sciences (1973-1973).

UOTILA, MAIJA H., R.N. (College of Nursing, Helsinki)
Associate Ophthalmologist (1966-1974).

UPCHURCH, M. L., Ph.D. (University of Wisconsin)
Professor, Food and Resource Economics, IFAS (1972-1972).

UPDYKE, WYNN FRANKLIN, Ph.D. (Michigan State University)
Professor and Chairperson of the Department of Professional Physical Education (1971-1971).

UPSHAW, WINTON LAMAR, B.S.B.A.
Associate in, College of Health Related Professions (1962-1976).

URDANETA, LUIS F., M.D. (National University, Bogota)
Assistant Professor of Surgery (JHEP) (1974-1974).

UREY, BLANCHE I., Ed.D. (Columbia University)
Dean and Professor, College of Nursing (1973-1973).

URONE, PAUL, Ph.D. (Ohio State University)
Professor of Environmental Engineering Sciences and Professor of Chemistry (1971-1971).

VALA, MARTIN T., Ph.D. (University of Chicago)
Associate Professor of Chemistry (1967-1972).

VALENSTEIN, EDWARD, M.D. (Albert Einstein College of Medicine)
Associate Professor and Chief of Neuromuscular Services (1974-1975).

VALISALO, PAAVO EMIL, D.Eng. (Technical University of Finland)
Associate Professor of Industrial and Systems Engineering (1961-1970).

VALK, MELVIN EHRMAN, Ph.D. (University of Wisconsin)
Associate Professor of German (1947-1947).

VAN ALSTYNE, W. SCOTT, S.J.D. (University of Wisconsin)
Professor of Law (1972-1973).

VAN AUKEN, WENDELL G., Ed.S. (University of Florida)
Assistant in Administration (1970-1971). *

VAN BLOKLAND, PETER JON, Ph.D. (University of Illinois)
Assistant Professor, Food and Resource Economics, IFAS (1976-1976).

VAN DE RIET, VERNON DWAYNE, Ph.D. (Florida State University)
Associate Professor of Clinical Psychology and Psychology (1962-1968).

VANDERWERF, CALVIN A., Ph.D. (Ohio State University)
Dean, College of Arts and Sciences and Professor of Chemistry (1971-1971).

VANDEVELDE, ALEXANDER G., M.D. (University of Louvain)
Assistant Professor of Medicine (JHEP) (1971-1971).

VANDIVER, JOSEPH S., Ph.D. (Louisiana State University)
Professor of Sociology (1962-1962),

VANDIVER, VERNON V., Ph. D. (N. Carolina St. U.)
Assistant Professor (Extension Aquatic Weeds Specialist) IFAS,Agricultural Research Center, Ft. Lauderdale (1975-1975).

VANHARTESVELDT, C. J., Ph.D. (University of Rochester)
Associate Professor of Psychology and Neuroscience (1970-1974).

VAN HORN, HAROLD H., (Iowa State University)
Professor (Animal Nutritionist) and Chairperson, Dairy Science Department, IFAS (1970-1970).

VAN MIEROP, L.H.S., M.D. (University of Leiden, Netherlands)
Professor of Pediatrics and Pathology (1966-1968).

VAN RINSVELT, HENRI ALBERT, Ph.D. (University of Utrecht)
Associate Professor of Physics (1967-1973).

VARGAS-CORTES, FERNANDO, M.D. (Universidad Javeriana, Bogota)
Assistant Professor and Associate Director, Division of Anatomic Pathology (1974-1975).

VARMA, ARUN KUMAR, Ph.D. (University of Alberta)
Professor of Mathematics (1967-1975).

VARNELL, EMILY D., B.S. (North Eastern University)
Research Instructor of Ophthalmology (1971-1971).

VARNELL, RAY J., Ph.D. (North Carolina State)
Assistant Research Scientist, IFAS (1974-1975).

VARNES, PAUL RAY, Ed.D. (University of Florida)
Professor of Professional Physical Education and Chairperson of the Department of Recreation (1968-1975).

VASIL, INDRA KUMAR, Ph.D. (University of Delhi, India)
Professor of Botany, Arts and Sciences (1967-1973).

VELEZ-FORTUNO, JESUS, Ph.D. (Lousiana State University)
Research Scientist, International Programs, IFAS, El Salvador (1975-1975).

VERA, MARIA INEZ, M.S.W. (University of Kansas)
Instructor of Social Work in Psychiatry (1974-1974).

VERA, HERNAN, Ph.D. (University of Kansas)
Assistant Professor of Sociology (1974-1974).

VERINK, ELLIS DANIEL, JR., Ph.D. (Ohio State University)
Professor of Materials Science and Engineering and Chairperson of the Department (1965-1973).

VERNON, JACK R., Ph.D. (Northwestern University)
Professor of Economics (1967-1974).

VERTUCCI, FRANK J., D.M.D. (New Jersey Dental School)
Assistant Professor of Endodontics, College of Dentistry (1975-1975).

VICK KENNETH W., Ph.D. (Oklahoma State University)
Associate Professor of Entomology (1970-1970).

VICKERS, FRANK D., Ph.D. (University of Florida)
Associate Professor of Computer and Information Sciences, College of Engineering (1959-1967). *

VICTORICA, BENJAMIN E., M.D. (University of Cuyo, Argentina)
Associate Professor of Pediatrics (1967-1974).

VIERCK, CHARLES J., JR., Ph.D. (University of Florida)
Associate Professor of Neuroscience and Psychology (1965-1971).

VILALLONGA, FEDERICO, Ph.D. (University of Buenos Aires)
Professor of Pharmacy (1969-1969).

VOGEL, JOSEPH F., Ph.D. (University of Florida)
Associate Professor of English (1965-1970).

VOGH, BETTY P., Ph.D. (University of Florida)
Associate Professor of Pharmacology and Therapeutics (1965-1974).

VOICHYSONK, BERNARD FRANCIS, M.F.A.
Professor of Architecture (1959-1976).

VOITLE, ROBERT ALLEN, Ph.D. (University of Tennessee)
Associate Professor (Associate Physiologist), IFAS (1969-1974).

VOLIN, RAYMOND B., Ph.D. (Montana State College)
Assistant Professor (Assistant Plant Pathologist), IFAS, Agricultural Research & Education Center, Homestead (1971-1971).

VOLK, BOB GARTH, Ph.D. (Michigan State University)
Associate Professor of Soil Science (Soil Chemistry), IFAS (1970-1974).

VON MERING, OTTO O., Ph.D. (Harvard University)
Professor of Anthropology and Community Health and Family Medicine (1970-1970).

VOYLES, LOUIS VERNON, B.A. (University of Florida)
University Registrar (1949-1974).

VRIES, JOHN K., M.D. (University of California)
Associate Professor, Neurological Surgery and Pediatrics (1975-1975).

WACKERLY, DENNIS D., Ph.D. (Florida State University)
Assistant Professor of Statistics (1973-1973).

WADDILL, V. H., Ph.D. (Clemson)
Assistant Professor (Assistant Entomologist), Agricultural Research and Education Center, Homestead, IFAS, (1975-1975).

WADLEY, JAMES BRYCE, J.D. (Tulane)
Associate in Law, Associate for Rural Development (1973-1973).

WAGLEY, CHARLES W., Ph.D. (Columbia University)
Graduate Research Professor of Anthropology and Coordinator, Council for International Studies and Programs (1971-1971).

WAGLOW, IRVING FREDERICK, Ed.D. (New York University)
Professor of Physical Education (1946-1965).

WAGNER, JAMES, Ed.S. (University of Florida)
Director of Pastoral Care, Shands Teaching Hospital and Clinics, Assistant Professor of Health Related Professions (1972-1973).

WAGNER, PATRICIA ANN, Ph.D. (University of Wisconsin)
Assistant Professor (Human Nutritionist), IFAS (1975-1975).

WAGNER, WILLIAM GRANT, M. Arch.
Director of Bureau of Research, Professor of Architecture (1964-1972).

WAHL, F. MICHAEL, Ph.D. (University of Illinois)
Associate Dean of the Graduate School, Associate Director of Sponsored Research, and Professor of Geology (1969-1973).

WAITE, BENJAMIN HUGO, Ph.D. (University of California)
Research Scientist, International Programs, IFAS, El Salvador (1973-1973).

WAITES, ROBERT ELLSWORTH, Ph.D. (Ohio State University)
Associate Professor (Associate Entomologist), IFAS, (1951-1968).

WAKEMAN, DONALD LEE, M.S.A. (University of Florida)
Professor (Associate in Animal Husbandry), IFAS (1957-1975).

WALDBILLIG, ROBERT J., Ph.D. (University of Minnesota)
Assistant Professor of Psychology (1976-1976).

WALDO, TOMMY RUTH, Ph.D. (University of Florida)
Professor of English (1955-1976).

WALDRON, JUDYTH, M.L.S. (UCLA)
Assistant Law Librarian (1974-1974).

WALKER, DON W., Ph.D. (Texas Christian University)
Associate Professor of Neuroscience, VAH (1970-1970).

WALKER, H. T.
Assistant Professor of Art (1970-1972).

WALKER, R. DIXON, III, M.D. (University of Miami)
Chairman, Medical Selection Committee, Professor of Surgery and Pediatrics (1970-1976).

WALKER, ROBERT DIXON, JR., M.S.
Professor of Chemical Engineering (1944-1969).

WALKER, THOMAS JEFFERSON, Ph.D. (Ohio State University)
Professor (Entomologist), IFAS (1957-1971).

WALL, GEORGE BRYAN, Ph.D. (North Carolina State University)
Assistant Professor, Food and Resource Economics Department, IFAS (1976-1976).

WALLACE, HAROLD DEAN, Ph.D. (Cornell University)
Professor (Animal Nutritionist) and Chairperson, IFAS (1950-1976).

WALLACE, HARVEY ALLEN, Ph.D. (University of Toledo)
Assistant Professor of Health Education (1974-1976).

WALLBRUNN, HENRY MAURICE, Ph.D. (University of Chicago)
Associate Professor of Zoology (1951-1963).

WALLIS, CAROL JEAN, M.Ed. (Louisiana State Univ.)
Visiting Teacher, P.K. Yonge Laboratory School (1976-1976).

WALSH, EDWARD KYRAN, Ph.D. (Brown University)
Professor of Engineering Sciences (1970-1975).

WALSH, THOMAS, Ph.D. (University of Chicago)
Associate Professor of Mathematics (1971-1975).

WALTERS, YANCEY BAILEY, M.S. (Auburn University)
Professor (Extension Home Economist-ENP Coordinator), IFAS (1965-1965).

WALTON, MARGARET N., M.S. (Florida State University)
Assistant Professor in Extension Home Economics, FAMU, IFAS (1975-1975).

WALTON, SHIGEKO SATO, M.F.A.
Instructor of Art (1974-1975).

WALTON, TODD L., JR., M.E. (University of Florida)
Assistant in Engineering of Coastal and Oceanographic Engineering Laboratory (1973-1973).

WAN, ELIZA H., M.A. in L.S.
Associate Librarian, Documents (1968-1973).

WANG, YU-HWA, Ph.D. (University of Southern California)
Assistant Professor of Coastal and Oceanographic Engineering Laboratory; Assistant Professor of Engineering Sciences (1973-1973).

WARD, COLEMAN Y., Ph.D. (Virginia Polytechnic Institute)
Professor and Chairperson of Agronomy, IFAS (1974-1974).

WARD, DANIEL BERTRAM, Ph.D. (Cornell University)
Professor of Botany, IFAS (1958-1975).

WARD, GRAY DOUGLAS, Ph.D. (University of Maryland)
Associate Professor of Electrical Engineering and Physics (1970-1975).

WARD, JOHN LAWRENCE, M.A., M.F.A.
Associate Professor of Art (1966-1975). *

WARD, PETER, LL.B. (Cornell University)
Professor of Law (1972-1972).

WARD, PHILLIP, A., M.F.A.
Associate Professor of Art (1959-1968).

WARD, RONALD W., Ph.D. (Iowa State University)
Assistant Professor, Food and Resources Economics Department, DC, IFAS (1970-1970).

WARDOWSKI, WILFRED F., Ph.D. (Michigan State University)
Associate Professor of Fruit Crops (Extension Horticulturist), IFAS, AREC—Lake Alfred (1969-1974).

WARE, WILLIAM B., Ph.D. (Northwestern University)
Professor of Education (1968-1976).

WARHEIT, GEORGE J., Ph.D. (Ohio State University)
Professor of Sociology and Psychiatry (1969-1975).

WARMKE, HARRY EARL, Ph.D. (Stanford University)
Professor of Sociology and Psychiatry (1969-1975).

WARNICK, ALVIN CROPPER, Ph.D. (University of Wisconsin)
Professor (Animal Physiologist) IFAS, (1953-1962).

WARREN, GLENDA L., M.S. (Oklahoma State University)
Assistant Professor (Extension Nutrition Specialist-ENP), IFAS (1971-1971).

WARREN, MICHAEL EDWARD, Ph.D. (Massachusetts Institute of Technology)
Assistant Professor of Electrical Engineering (1974-1974).

WASS, HANNELORE LINA, Ph.D. (University of Michigan)
Professor of Education (1969-1975).

WATERS, WILLIE ESTEL, Ph.D. (University of Florida)
Professor (Horticulturist) and Center Director, Agricultural Research and Education Center, Bradenton, IFAS (1960-1968).

WATSON, JAMES KENNETH, Ph.D. (Rice University)
Associate Professor of Electrical Engineering (1966-1966).

WATSON, KATHRYN J., M.Ed. (University of Florida)
Teacher, P. K. Yonge Laboratory School (1973-1973).

WATSON, MARY CALDWELL, B.S. In L.S.
Associate Librarian, Reference and Bibliography (1960-1970).

WATSON, ROBERT T., M.D. (University of Florida)
Associate Professor or Neurology, VAH, and Neuroscience (1973-1976).

WATSON, VICTOR STERLING, M.A. (University of Florida)
Instructor of English (1971-1971).

WATTENBARGER, JAMES L., Ed. D. (University of Florida)
Professor of Education and Chairperson, Educational Administration Department (1947-1968).

WATTERSON, JAMES WALTER, Ph.D. (University of Florida)
Associate Engineer in Electrical Engineering (1965-1976) *

WATTLEWORTH, JOSEPH A., Ph.D. (Northwestern University)
Professor of Civil Engineering (1969-1969).

WATTS, EARLE HUNT, B.S. (University of Missouri)
Assistant Professor of Mechanical Engineering (1957-1957).

WEAR, RICHARD ARLEN, Ph.D. (Florida State University)
Associate Professor of Humanities (1970-1976).

WEATHERSPOON, DAN MOBLEY, Ph.D. (Colorado State University)
Assistant Professor (Assistant Horticulturist), IFAS, Agricultural Research Center, Monticello (1973-1973).

WEAVER, ANNA LOUISE, B.S. in L.S.
Librarian in Charge of Architecture and Fine Arts Library (1959-1973). *

WEAVER, WILLIAM BANCROFT, M.S. (Florida State University)
Associate Librarian, IFAS (1964-1969).

WEBB, D. NEIL, B.S., R.A.
Associate Director, Division of Planning and Analysis (1972-1974).

WEBB, DANIEL WARREN, Ph.D. (Kansas State University)
Associate Professor (Extension Dairyman), IFAS (1971-1976).

WEBB, J. C. M.S. (University of Tennessee)
Assistant Professor (Assistant Agricultural Engineer), USDA, IFAS (1971-1971).

WEBB, JEANINNE N., Ed.D. (University of Florida)
Associate Professor and Director, Office of Instructional Resources (1972-1972).

WEBB, RODMAN B., Ed.D. (Rutgers University)
Assistant Professor of Education (1972-1974).

WEBB, SAWNEY DAVID, Ph.D. (University of California)
Curator of Vertebrate Paleontology, Florida State Museum, Professor of Zoology and Geology (1964-1975).

WEBB, W. B., Ph.D. (State University of Iowa)
Graduate Research Professor or Psychology (1958-1970).

WEBER, F. THOMAS, M.D. (University of Cincinnati)
Assistant Professor in Pediatrics and Assistant Director of Pediatric Clinic (1975-1975).

WEECH, A. ASHLEY, M.D. (Johns Hopkins Medical School)
Professor in Pediatrics (1975-1975).

WEEMS, HOWARD VINCENT, Jr., Ph.D. (University of Ohio)
Professor (Entomologist), IFAS, DPI (1966-1973).

WEHLBURG, ALBERT F.C., Ed.D.
Assistant Professor of Theatre (1966-1973).

WEIDHASS, DONALD E., Ph.D. (Cornell University)
Professor (Entomologist) and Investigations Leader. USDA, IFAS (1967-1967).

WEINER, ROY S., M.D. (State University of New York)
Associate Professor of Medicine and Chief of Oncology (1976-1976).

WEINGARTNER, DAVID PETER, Ph.D. (Michigan State University)
Associate Professor (Associate Plant Pathologist), IFAS, Agricultural Research Center, Hastings (1969-1975).

WEINSHELBAUM, ARLENE M., M.D. (University of Chicago)
Assistant Professor of Radiology, VAH (1973-1973).

WEINSHELBAUM, EDWARD I., M.D. (University of Chicago)
Associate Professor of Surgery and Chief of Surgery, VAH (1969-1972).

WEISMANTEL, WILLIAM LOUIS, LL.B. (Harvard Law School)
Ph.D. (Harvard University) Professor of Urban and Regional Planning (1972-1975).

WEISS, DAVID, LL.B. (Harvard University)
Associate Law Librarian (1969-1969).

WELCH, PAULA DEE, M.A. (George Peabody College)
Assistant Professor of Professional Physical Education (1974-1974).

WELDY, PARK L., D.M.D. (University of Florida)
Assistant Professor of Community Dentistry, College of Dentistry (1976-1976).

WELLBORN, CHARLES G., Jr., M.A.
Professor of Journalism and Communications (1966-1976).

WELLER, HENRY RICHARD, Ph.D. (Duke University)
Associate Professor of Physics (1968-1973).

WELLS, ANASTASIA L., Ph.D. (University of Florida)
Assistant Professor of Clinical Psychology (1971-1971).

WELLS, EDWARD L., B.F.A.
Assistant in Broadcasting in Journalism and Communications (1969-1973).

WELSCH, WALTER ROLAND, M.Ed.
Associate Professor of Physical Education and Assistant Track Coach (1954-1972).

WELTNER, WILLIAM, JR., Ph.D. (University of California)
Professor of Chemistry (1966-1966).

WENZEL, EVELYN L., Ed.D. (Columbia University)
Professor of Education (1958-1970). *

WERGE, ROBERT WENDELL, Ph.D. (University of Florida)
Post Doctoral Fellow, International Programs, IFAS, Peru (1975-1975).

WERSHOW, JAMES S., LL.M. (Yale Law School)
Visiting Professor (Food and Resource Economics), IFAS (1975-1975).

WEST, FRED E., M.Ed. (University of Florida)
Assistant Professor of Allied Health Program (1976-1976).

WEST, GWENETH LUCRETIA, M.F.A. (U. of Texas)
Assistant Professor of Theatre (1976-1976).

WEST, ROGER L., Ph.D. (Texas A&M University)
Assistant Professor of Animal Science (1969-1973). *

WEST, SHERLIE HILL, Ph.D. (University of Illinois)
Professor (Agronomist) and Assistant Dean for Research, IFAS (1972-1973).

WESTBERRY, GEORGE OMER, M.S. (University of Georgia)
Assistant Professor (Farm Management Specialist), IFAS, Agricultural Research and Education Center, Quincy (1973-1973).

WESTFALL, MINTER JACKSON, JR., Ph.D. (Cornell University)
Professor of Zoology and Entomology (1947-1969).

WESTON, EDWARD G., Ph.D. (Florida State University)
Assistant Professor of Journalism and Communications (1970-1972). *

WETHINGTON, JOHN ABNER, JR., Ph.D. (Northwestern University)
Professor of Nuclear Engineering Sciences (1954-1960).

WETTERQVIST, ORJAN FREDERICK, M.A.
Associate Professor of Architecture (1969-1974).

WEYRAUCH, WALTER OTTO, J.S.D. (Yale University)
Professor of Law (1957-1960).

WHEATON, THOMAS ADAIR, Ph.D. (University of California)
Associate Professor (Associate Horticulturist), IFAS, Agricultural Research and Education Center, Lake Alfred (1963-1970).

WHEELER, WILLIS BOLY, Ph.D. (Pennsylvania State University)
Associate Professor (Associate Biochemist), IFAS (1966-1972).

WHELAN, SAMUEL CLEMENT, Ph.D. (University of Maryland)
Assistant Professor (Assistant Animal Scientist), IFAS, Agricultural Research and Education Center, Quincy (1976-1976).

WHIDDON, NANCY SUE, M.A. (Indiana University)
Assistant Professor of Professional Physical Education (1972-1976).

WHITCOMB, WILLARD HALL, Ph.D. (Cornell University)
Professor of Entomology (Entomologist), IFAS (1967-1967).

WHITE, ARTHUR O., Ed.D. (State University of New York at Buffalo)
Associate Professor of Education (1970-1975)

WHITE, CLEMENTINE BERTHA, M.M.
Associate Professor of Music (1966-1975).

WHITE, FRANKLIN HENRY, Ph.D. (University of Illinois)
Professor (Bacteriologist), College of Veterinary Medicine IFAS (1955-1967).

WHITE, JAKE B., B.S.A
Professor (Bacteriologist), College of Veterinary Medicine IFAS (1955-1967).

WHITE, JAMES MARION, Ph.D. (Ohio State University)
Assistant Professor (Assistant Horticulturist), IFAS Agricultural Research and Education Center, Sanford (1974-1974).

WHITE, KEITH D., Ph.D. (Brown University)
Assistant Professor of Psychology (1976-1976).

WHITE, LARRY D., Ph.D. (University of Arizona)
Associate Professor of Range Ecosystem Management, IFAS (1970-1976).

WHITE, NEIL L., Ph.D. (Harvard)
Assistant Professor of Mathematics (1973-1973).

WHITE, TONY ROBERT, M.A.E.
Assistant Director of Research, Assistant Professor of Architecture (1969-1973).

WHITEHEAD, RICHARD HOLMES, B.A. (University of Florida)
Dean of Admissions and Records (1938-1974).

WHITEHEAD, WILLIAM J.
Assistant in Engineering in Civil Engineering (1975-1975).

WHITESIDE, JACK OLIVER, Ph.D. (University of London)
Professor (Plant Pathologist), IFAS, Agricultural Research Education Center, Lake Alfred (1967-1973).

WHITLEY, ESTOYA WILLIS, M.A. (Appalachian State University)
Instructor, P.K. Yonge Laboratory School (1958-1962).

WHITNEY, ELLSWORTH DOW, Ph.D. (New York University)
Professor of Materials Science and Engineering (1970-1975).

WHITNEY, JODIE DOYLE, Ph.D. (University of Oklahoma)
Associate Professor (Associate Agricultural Engineer) IFAS, Agricultural Research and Education Center Lake Alfred (1965-1972).

WHITTAKER, MILTON DWAINE, M.S. (Cornell University)
Assistant in Research, International Programs, IFAS, Bolivia (1976-1976).

WHITTAKER, RONALD D., Ph.D. (Florida State University)
Associate Professor of Journalism and Communications (1969-1974).

WHITTAKER, SUSAN M., M.A.J.C.
Assistant in Broadcasting and Program Manager, Television Station WUFT (1974-1974).

WHITTINGTON, RICHARD M., M.D. (Jefferson Medical College)
Assistant Dean for VA Hospital Relations, Chief of Staff, Gainesville VAH., Professor of Medicine (1976-1976).

WHITTY, ELMO BENJAMIN, Ph.D. (North Carolina State University)
Associate Professor (Associate Agronomist), IFAS (1966-1971).

WHITWORTH, JAY M., M.D. (Indiana University)
Assistant Professor of Pediatrics (JHEP) (1972-1972).

WHORTON, JAMES E., Ed. D. (Colorado State University)
Associate Professor of Education (1969-1974).

WICKENDEN, THOMAS, M.D. (Columbia College)
Assistant Professor of Community Health and Family Medicine (1975-1975).

WICKES, FRANK BOVEE, M.M.
Assistant Professor of Music and Director of Bands (1973-1973).

WICKWIRE, NANN A., D.D.S. (University of Maryland) M.S.D. (Baylor University)
Professor and Chairwoman of Orthodontics, College of Dentistry (1974-1974).

WIEDEGREEN, ERIC ALBERT, M.Arch.
Assistant Professor of Architecture (1975-1976).

WIGGINS, J. ARDENE, B.S. (University of Florida)
Director of Academic Support Programs (1971-1972).

WILCOX, CHARLES JULIAN, Ph.D. (Rutgers University)
Professor (Geneticist), IFAS (1959-1971).

WILCOX, MERRILL, Ph.D. (North Carolina State University)
Professor (Agronomist), IFAS (1960-1973).

WILDER, BUNA J., M.D. (Duke University)
Professor of Neurology and Neuroscience, VAH (1962-1973).

WILDT, ALBERT R., Ph.D. (Purdue University)
Associate Professor of Marketing (1971-1976).

WILENSKY, NORMAN MARVIN, Ph.D. (Yale University)
Associate Professor of History and Undergraduate Coordinator of History (1962-1969).

WILFRET, GARY JOE, Ph.D. (University of Hawaii)
Associate Professor (Associate Geneticist), IFAS, Agricultural Research and Education Center, Bradenton (1969-1974).

WILKERSON, G. STEVEN, B.A. (University of the South)
Vice President for Development and Alumni Affairs (1973-1973).

WILKERSON, S. JEFFREY, Ph.D. (Tulane University)
Assistant Curator of Anthropology, Florida State Museum, and Assistant Professor, Anthropology (1972-1972).

WILKIE, WILLIAM L., Ph.D. (Stanford University)
Associate Professor of Marketing (1974-1974).

WILKINS, JON S., D.D.S., M.S.D. (Indiana University)
Assistant Professor of Occlusion and Fixed Prosthodontics (1975-1975).

WILKINSON, ROBERT CLEVELAND, Ph.D. (University of Wisconsin)
Professor (Entomologist), IFAS (1960-1971).

WILKOWSKE, HOWARD HUGH, Ph.D. (Iowa State University)
Professor (Dairy Technologist) and Assistant Dean for Research, IFAS (1950-1968).

WILLARD, DEL, M.S. (Western Reserve University)
Instructor in Mathematics (1960-1960).

WILLIAMS, AUBREY LAKE, Ph.D. (Yale University)
Graduate Research Professor of English (1958-1961).

WILLIAMS, CHARLES STANLEY, M.S. (Western Kentucky University)
Instructor of Physical Education (1972-1972).

WILLIAMS, CLYDE M., Ph.D. (Oxford Univ.) M.D. (Baylor Univ.)
Professor and Chairperson, Radiology (1960-1965).

WILLIAMS, DAVID D., Ph.D. (Univ. of Florida)
Program Director, Senior Year and Assistant Professor, College of Nursing (1970-1975). *

WILLIAMS, DAVID T., Ph.D. (New York University)
Professor of Engineering Sciences (1957-1957).

WILLIAMS, DONALD EDWARD, Ph.D. (Northwestern University)
Professor of Speech (1959-1971).

WILLIAMS, EMMET LOUIS, Ph.D. (George Peabody College for Teachers)
Professor of Education and Associate Dean, College of Education (1964-1972).

WILLIAMS, HIRAM D., M.Ed.
Professor of Art (1960-1968).

WILLIAMS, NANCY LYNNE, M.S.L.S.
Assistant Librarian, Catalog (1971-1971).

WILLIAMS, PAMELA D., M.S. (Florida State University)
Assistant Law Librarian (1973-1973).

WILLIAMS, ROBERT E., M.E., M.A.
Assistant in Computer Research, Planning and Budgeting Section, Office of the Vice President for Health Affairs (1972-1974).

WILLIAMS, WILLIAM N., Ph.D. (University of Florida)
Associate Professor of Communicative Disorders and Department of Basic Dental Sciences, College of Dentistry (1969-1976).

WILLIAMS, WINTON E., LL.M. (Yale)
Associate Professor of Law (1969-1973).

WILLIS, SUSAN E., M.S.N. (Yale University)
Instructor, College of Nursing (1976-1976).

WILLMAN, SALLY, B.S. (University of Florida)
Visting Teacher, P.K. Yonge Laboratory School (1976-1976).

WILLMORE, LUTHER J., M.D. (St. Louis University)
Assistant Professor of Neurology, VAH (1975-1975).

WILLOCKS, R. MAX, M.L.S. (Peabody College)
Associate Director for Public Service (1976-1976).

WILMOT, DAVID L., M.A.
Professor of Music (1962-1968).

WILSON, DAVID C., Ph.D. (Rutgers)
Associate Professor of Mathematics (1972-1975).

WILSON, HAROLD ARNOLD, Ph.D. (University of Iowa)
Associate Professor of Social Sciences and History (1958-1967).

WILSON, HENRY RUSSELL, Ph.D. (University of Maryland)
Professor (Poultry Physiologist), IFAS (1962-1974).

WILSON, JENNET MAE, M.A. (Columbia University)
Associate Professor, College of Nursing (1957-1975).

WILSON, LUCILLE BRIGHT, Ed.D. (University of Florida)
Associate Professor, College of Nursing (1973-1974). Coordinator Level III, College of Nursing (1973-1974).

WILSON, WILLIAM CURTIS, Ph.D. (University of Florida)
Adjunct Associate Professor (Associate Plant Physiologist) IFAS, DC, AREC-Lake Alfred (1966-1973).

WILTBANK, WILLIAM JOSEPH, Ph.D. (University of Florida)
Associate Professor (Associate Horticulturist), IFAS (1968-1973).

WINARSKY, IRA HAROLD, M.F.A.
Associate Professor of Architecture (1972-1976).

WINEFORDNER, JAMES DUDLEY, Ph.D. (University of Illinois)
Graduate Research Professor of Chemistry (1959-1976).

WINER, P.D., M.S. (U.S.N.P.G.S.)
Assistant Professor of Naval Science (1975-1975).

WING, ELIZABETH S., Ph.D. (University of Florida)
Associate Curator of Zooarchaeology, Florida State Museum and Assistant Professor, Anthropology (1961-1973).

WING, JAMES MARVIN, Ph.D. (Iowa State University)
Professor (Animal Physiologist), IFAS (1951-1966).

WINGE, GAYLORD H., JR., M.B.A. (U. of Florida)
Captain, U.S. Air Force, Assistant Professor of Aerospace Studies (1976-1976).

WINIUS, GEORGE DAVIDSON, Ph.D. (Columbia University)
Associate Professor of History (1956-1969).

WINKLER, ROBERT E., M.H.A. (Washington University)
Assistant Professor of Allied Health Program (1975-1975).

WINSLOW, KATHERINE RINEARSON, M.L.S. (Univ. of N. Carolina)
Assistant Librarian, J. Hillis Miller Health Center Library (1975-1975).

WISE, DANIEL E., M.D. (Ohio State University)
Assistant Professor of Medicine, VAH (1974-1975).

WISEMAN, BILLY R., Ph.D. (Kansas State University)
Associate Professor of Entomology IFAS (1970-1970).

WISLEY, PHILLIP PAUL, M.A.Arch.
Assistant Professor of Architecture (1976-1976).

WITTE, WILLARD THEODORE, Ph.D. (University of Maryland)
Assistant Professor (Assistant Ornamental Horticulturist), IFAS (1971-1971).

WITTIG, HEINZ JOSEPH, M.D. (University of Munich)
Professor of Pediatrics (1968-1973).

WITTKOPF, BARBARA JEAN, M.S.L.S.
Associate Librarian, Reference and Bibliography (1970-1975).

WITTKOPF, EUGENE R., Ph.D. (Syracuse University)
Associate Professor of Political Science (1970-1975).

WITTMER, PAUL JOSEPH, Ph.D. (Indiana University)
Professor and Chairperson, Department of Counselor Education (1968-1974).

WOESTE, JOHN THEODORE, Ph.D. (University of Wisconsin-Madison)
Professor, Dean for Cooperative Extension Services, IFAS (1976-1976).

WOLF, EMIL ANDREW, M.S. (Purdue University)
Professor (Horticulturist), IFAS, Agricultural Research and Educational Center, Belle Glade (1948-1966).

WOLFE, CARLYLE C., M.S. (Florida State Univ.)
Associate in Education (1975-1975).

WOLFF, RONALD G., Ph.D. (University of California)
Assistant Professor of Zoology (1973-1973).

WOLFSON, MORTON, M.Ed.
Assistant Professor of Behavioral Studies, Adviser (1965-1968).

WOLKING, WILLIAM D., Ph.D. (University of Minnesota)
Professor of Education (1961-1973). *

WOLTZ, SHREVE SIMPSON, Ph.D. (Purdue University)
Professor (Plant Physiologist), IFAS, Agricultural Research and Education Center, Bradenton (1953-1968).

WOOD, FRANK BRADSHAW, Ph.D. (Princeton University)
Professor of Astronomy, Associate Chairman for Astronomy, Director of Optical Observatories (1968-1971).

WOODARD, JAMES C., D.V.M., Ph.D. (Auburn University, MIT)
Associate Professor of Veterinary Medicine, Associate Professor and Head, Division of Comparative Pathology (1958-1974).

WOODRUFF, ROBERT EUGENE, Ph.D. (University of Florida)
Associate Professor (Associate Entomologist), IFAS, DPI (1966-1973).

WOODRUFF, WILLIAM, D.Phil. (University of Nottingham, England)
Graduate Research Professor of Economic History and Professor of Economics (1966-1968).

WOODS, CHARLES T., M.A. (University of Florida)
Assistant Professor (Assistant Editor) Editorial Department, IFAS (1966-1968).

WOODWARD, EDWARD R., M.D. (University of Chicago)
Professor and Chairperson, Department of Surgery (1957-1957).

WORKMAN, RALPH B. JR., Ph.D. (Oregon State University)
Associate Professor (Associate Entomologist), IFAS, Agricultural Research Center, Hastings (1958-1967).

WRAGGE, JOHN H., Ph.D. (U. of Houston), C.P.A. (Illinois)
Assistant Professor of Accounting (1975-1975).

WRIGHT, HOLLY ANNE, M.S.L.S. (Case W. Reserve U.)
Assistant Librarian, Architecture and Fine Arts Branch Library (1976-1976).

WRIGHT, ROBERT G., Ph.D. (University of Kansas)
Associate Professor of Education (1970-1976).

WROE, MARTHA, M.A. (Stanford University)
Associate Professor of Physical Therapy and Neurology (1959-1970).

WYATT, JOHN WALTON, S.J.D. (George Washington University)
Professor of Business Law (1948-1956).

WYRICK, JEAN C., Ph.D. (University of Texas, Austin)
Assistant Professor of English (1975-1975).

WYNNE, JAMES W., M.D. (Cornell University)
Assistant Professor of Medicine and Anesthesiology, Chief of Pulmonary Services, Coordinator of Medical Intensive Care Unit and Director of Pulmonary Functions Lab (1973-1975).

YANG, MARK CHAO-KUEN, Ph.D. (University of Wisconsin)
Associate Professor of Statistics (1970-1975).

YATES, EDWARD D., M.A.
Associate Professor of Journalism and Communications (1965-1976).

YELLEN, VICTOR M., M.S. (Auburn University)
Assistant to the Vice President for Academic Affairs (1970-1972).

YEN, ALICE BING, M.S.L.S.
Associate Librarian, Catalog (1966-1972).

YERKOVICH, SALLY M., Ph.D. (Univ. of Pennsylvania)
Visiting Assistant Professor (1976-1976).

YII, ROLAND, Ph.D. (University of Pennsylvania)
Research Scholar Scientist of Electrical Engineering; Eglin AFB (1968-1969).

YOH, R. W., Ph.D. (Suny)
Assistant Professor of Mathematics (1972-1973).

YOHO, WILLIAM HERBERT, M.S.
Associate Professor of Physical Sciences and Geology (1951-1971).

YORTON, JOAN BANNISTER, Ph.D. (University of Florida)
Instructor in Physical Sciences (1967-1970).

YOST, RICHARD LEE, Pharm.D. (Philadelphia College of Pharmacy and Sciences)
Assistant Professor of Pharmacy (1974-1974).

YOST, WILLIAM ALBERT, Ph.D. (Indiana University)
Associate Professor of Speech and Psychology (1971-1975).

YOUNG, CHARLES JOHN, JR., M.S. (University of Florida)
Associate Director, NERDC (1971-1976).

YOUNG, DAVID G., M.S. (University of Florida)
Associate in Entomology, IFAS (1976-1976).

YOUNG, JERALD WAYNE, Ph.D. (Yale University)
Assistant Professor of Management (1974-1974).

YOUNG, MARTIN D., Sc.D. (John Hopkins University)
Research Professor, College of Veterinary Medicine, Department of Veterinary Science; Department of Immunology and Medical Microbiology (1974-1975).

YOUNG, MICHAEL J., Ph.D. (Washington State University)
Assistant Professor of Fruit Crops (1974-1974).

YOUNG, ROGER H., Ph.D. (U. of Calif. in Los Angeles)
Adjunct Associate Professor in Fruit Crops, USDA, IFAS (1972-1975).

YOUNGS, MARIAN AMELIA, M.A. in L.S.
Librarian, Assistant Chairperson, Catalog (1934-1970). *

YOZGATLIOGLU, CUNEYT A., M.D. (University of Istanbul)
University Psychiatrist; Chief, Clinical Services (1963-1963).

YU, LUCIA Y., M.A. (University of Iowa), C.P.A. (Florida and Utah)
Assistant Dean, College of Business Administration and Assistant Professor of Accounting (1973-1974).

YU, SHIH CHENG, Ph.D. (University of Iowa)
Professor of Accounting (1967-1968).

YUAN, TZU LIANG, Ph.D. (Ohio State University)
Professor of Soil Science (Soil Chemistry) IFAS (1955-1972).

YURGILAS, KATHLEEN LOUISE, M.A.
Instructor of Art (1974-1976).

YUTANGCO-COLLANT, ERLINDA, M.D. (Far Eastern University)
University Physician (1974-1974).

ZACHARIAH, GERALD L., Ph.D. (Purdue University)
Professor and Chairperson, Agricultural Engineering, IFAS (1975-1975).

ZAHN, MARKUS, Sc.D. (Massachusetts Institute of Technology)
Associate Professor of Electrical Engineering (1970-1975).

ZAKHARI, KAMAL N., B.Ch.D. (University of Cairo) D.D.S., M.S. (University of Missouri at Kansas City)
Associate Professor of Removable Prosthodontics, College of Dentistry (1974-1974).

ZAM, STEPHEN G., III, Ph.D. (University of Southern California)
Associate Professor, Microbiology and Cell Science, Arts and Sciences (1966-1966).

ZARANTONELLO, S.E., Ph.D. (University of Wisconsin)
Assistant Professor of Mathematics (1972-1973).

ZAUNER, CHRISTIAN WALTER, Ph.D. (Southern Illinois Univ.)
Professor of Professional Physical Education and Professor of Medicine (1965-1971).

ZEIGLER, C. DAWSON, M.S.B.C.
Associate Professor of Building Construction (1960-1975). *

ZEMAN, JOSEPH JAY, Ph.D. (University of Chicago)
Professor of Philosophy (1966-1973).

ZEPP, GLENN ARTHUR, Ph.D. (Penn State University)
Associate Professor, Food and Resource Economics Department, USDA, IFAS (1971-1971).

ZETTLER, FRANCIS WILLIAM, Ph.D. (Cornell University)
Professor (Plant Pathologist), IFAS (1966-1976).

ZILLER, ROBERT C., Ph.D. (University of Michigan)
Professor of Psychology (1970-1970).

ZIMMERMAN, IRENE, Ph.D. (University of Michigan)
Librarian, Reference and Bibliography (1951-1970).

ZIMMERMAN, LELAND L., Ph.D. (University of Wisconsin)
Professor of Theatre (1955-1968).

ZIMPFER, PAMELA M., M.Ed., (Univ. of Florida)
Coordinator, Department of Extended Services, Division of Continuing Education (1975-1975).

ZIMPFER, WALTER HENRY, M.S. (Rutgers University)
Associate Professor of Civil Engineering (1950-1956). *

ZITTER, THOMAS ANDREW, Ph.D. (Michigan State University)
Associate Professor (Associate Plant Pathologist), IFAS, Agricultural Research and Education Center, Belle Glade (1968-1974).

ZOLTEK, JOHN, JR., Ph.D. (California Institute of Tech.)
Associate Professor of Environmental Engineering Sciences (1972-1976).

ZOLTEWICZ, JOHN ANDREW, Ph.D. (Princeton University)
Professor of Chemistry (1963-1973).

ZORNETZER, STEVEN F., Ph.D. (University of California)
Associate Professor of Neuroscience and Chairman, Phase A

ZUMBRO, JAMES MARK, M.M.
Associate Professor of Music (1969-1974).

ZWEIG, MARILYN B., Ph.D. (University of Rochester)
Assistant Professor of Philosophy (1966-1966).

UNIVERSITY OF FLORIDA AGRICULTURAL EXTENSION SERVICE COUNTY AND HOME ECONOMICS AGENTS 1976-1977

AALBERG, RICHARD M., M.S.
County Extension Director (III), Manatee County (1975-1976).

ALEXANDER, CLINK, M.S.
Extension Agent-Agronomy (I), Madison County (1975-1975).

ALLEN, EDWARD, M.S.A.
Extension Agent (III), Ornamentals, Multi-County, (1960-1969).

ALSTON, ARTHUR DEAN, M.Ag.
County Extension Director (I), Citrus County (1970-1974).

ANDERSON, MAE MILLAR, M.S.
Extension Home Economics Agent (II), Madison County (1963-1963).

ANDERSON, MARY ETHEL, M.S.
Extension Home Economics Agent (II), Columbia County (1969-1972).

ANDREWS, ADAM TUCKER, M.Ag.
County Extension Director (III), Alachua County (1954-1970).

ANDREWS, RANCE ADAMS, M.S.
County Extension Director (II), Hamilton County (1953-1955).

AYERS, ALICE M. BLACKBURN, M.Ret.
Extension Home Economics Agent 4-H (II), Lake County (1968-1971).

BALDWIN, JOHN ALLEN, M.S.A.
County Extension Director (I), Levy County (1973-1973).

BANKS, ROSALEE, B.S.
Extension Home Economics Agent 4-H (I) Putnam County (1972-1972).

BARBER, LINDA B., B.S.
Extension Home Economics Agent (II), Calhoun County (1971-1972).

BARMBY, BRUCE ALAN, M.S.
Extension Agent, Ornamentals & Vegetables (III), Orange County (1958-1969). *

BARNES, MARVIN, B.S.
Extension Agent—4-H (I), Jackson County (1975-1975).

BASS, BERNICE ODELL, M.S.A.
County Extension Director (III), Glades County (1956-1971).

BEEM, JEAN, M.S.A.
County Extension Director (IV), Hillsborough County (1948-1969).

BENTLEY, DICKI DRESBACH, B.S.
County Extension Home Economics Agent 4-H (II), Gadsden County (1966-1976).

BIR, RICHARD EDWARD, M.S.
Extension Agent—Ornamentals (II), Alachua County (1972-1972).

BIRREL, AURILLA DRIGGERS, B.S.H.E.
Extension Home Economics Agent (II), Brevard County (1969-1969).

BIZETTE, JUSTINE LAMBERT, B.S.H.E.
Extension Home Economics Agent 4-H (II), Dade County (1961-1969).

BOARD, SARAH MOORE, B.S.H.E.
Extension Home Economics Agent (I), Duval County (1970-1970).

BOND, SHIRLEY REBECCA, M.S.
Extension Home Economics Agent (II), 4-H, Pinellas County (1973-1976).

BOSS, FREDERICK EARL, M.A.
Extension Agent, Livestock (II), Palm Beach County, (1971-1971).

BRACHHOLD, LINDA J., B.S.
Extension Agent, Ornamentals (I), Volusia County (1971-1976).

BRADDOCK, THOMAS HANSEN, M.S.A.
County Extension Director (III), Duval County (1957-1969).

BRASHER, CHARLES LUTHER, M.S.
Extension Agent (I) FAMU, Jackson County (1974-1974).

BRENNEMAN, JOHN, M.A.
Extension Agent—Dairy (I), Polk County (1975-1975).

BRITTON, TAMER LAVERNE, M.Ed.
Extension Home Economics Agent (I) ENP Duval County (1972-1976).

BROCK, MARGUERITE RISH, B.S.H.E.
Extension Home Economics Agent (II), St. Lucie County (1946-1962). *

BROOKS, LEON R., B.S.
Extension Agent (I), Agriculture and Community Resource Development, Madison County (1974-1974).

BROWN, NETTIE RUTH, B.S.H.E.
Extension Home Economics Agent (III), St. Johns County (1960-1969).

BROWN, REGINALD L., M.S.A.
Extension Agent (I)-Multi County, Seminole County (1974-1974).

BROWN, WILLIAM I., M.S.
County Extension Director (I), Gilchrist County (1975-1975).

BUCKLAND, MARION L., B.S.
Extension Home Economics Agent (II), Alachua County (1974-1974).

BURGESS, JANE RANDAL, B.S.H.E.
Extension Home Economics Agent (II), Jackson County (1954-1969).

BURGESS, RAYMOND HUNTER, M.S.A.
County Extension Director (III), Hendry County (1962-1969).

CAMERON, JOSEPHINE MOORE, M.Ag.
Extension Home Economics Agent (III), Polk County (1953-1969). *

CANTY, BESSIE JACKSON, M.S.
Extension Home Economics Agent (III), Duval County (1963-1972).

CARR, HORACE MIXON, B.S.A.
County Extension Director (II), Bay County (1951-1951).

CASTENSON, PAUL, M.S.
County Extension Director (I), Dixie County (1975-1975).

CAUSEY, JOHN HJALMAR, B.S.A.
Extension Agent, Vegetables & Sugar Cane (III), Palm Beach County (1948-1969).

CHAMPAGNE, ROY JEAN, M.S.
Extension Agent—Poultry (III), Dade County (1953-1969).

CHANDLER, ISAAC, JR., B.S.
Extension Agent (II), Hamilton County (1952-1963).

CHRISTENBERRY, LAMAR, M.S.
County Extension Agent (I), Liberty County (1976-1976).

CLARK, BERNARD HENTZ, B.S.A.
Extension Agent—Livestock (II), Gadsden County (1948-1969).

CLARK, SHIRLEY T., M.S.
Extension Home Economics Agent (II), Gadsden County (1974-1974).

CLARK, VIRGINIA CARR, B.S.H.E.
Extension Home Economics Agent (II), Walton County (1953-1960). *

CLASSON, DOROTHY JACOBSON, B.S.
Extension Home Economics Agent (III), Lee County (1959-1969).

CLAY, RALPH THOMAS, B.S.A.
County Extension Director (III), Putnam County (1949-1969).

COBB, LEONARD CLARENCE, M.Ag.
County Extension Director (III), Jackson County (1951-1969).

COCHRAN, NANNIE MOXLEY, B.S.
Extension Home Economics Agent (II), Hardee County (1971-1971).

COLEMAN, DENISE L., M.S.
Extension Home Economics Agent (I), Collier County (1974-1974).

COLLINS, LEALA REAVES, B.S.
Extension Home Economics Agent (II), Orange County (1953-1969).

COLLINS, WILLIAM EARL, B.S.A.
Extension Agent (I), Livestock, Jackson County (1951-1963).

COOMBS, VIRGINIA HILL, B.S.
Extension Home Economics Agent—4-H (II), Hillsborough County (1954-1969).

COSTOPOULOS, VICKI, B.S.
Extension Agent 4-H, (I) Suwannee County (1976-1976).

COTTON, CHARLA J., M.S.
Extension Agent-Home Economics (I), Okaloosa County (1975-1975).

COWEN, EDWARD J., M.Ag.
County Extension Director (IV), Escambia County (1955-1976).

CUMMINGS, JAMES FREDERICK, M.Ag.
Extension Agent (II), Broward County (1961-1969).

CUNNINGHAM, BRENDA JO, B.S.
Extension Home Economics Agent (I), Okeechobee County (1974-1974).

CURTIS, ROBERT GEORGE, B.S.A.
County Extension Director (III), Lee County (1952-1970).

DAIGLE, LOUIS JOHN, M.Ag.
Extension Agent (III), Ornamentals, Dade County (1960-1970).

DALTON, JOSEPH DAVID, Ph.D. (University of Massachusetts)
Extension Agent (IV) Soils, Dade County (1961-1975).

DAVIS, HENRY PITTMAN, B.S.A.
County Extension Director (II), Taylor County (1950-1954).

DAVIS, JOHNNIE EVERETT, M.Ag.
County Extension Director (III), Washington County (1948-1969).

DAVIS, ROBERT MARION, M.Ag.
County Extension Director (III), Polk County (1960-1969).

DAWSON, ALBERT DOUGLAS, M.S.
County Extension Director (II), Hernando County (1966-1966).

DELLAPA, JUDY M., B.S.
Extension Home Economics Agent (I), Dade County (1975-1975).

DEMAREE, MICHAELE, M.S.A.
County Extension Director (II), Pasco County (1966-1972).

DEMONT, DEBRA J., B.S.
Extension Agent-Home Economics Program Leader (I), Lafayette County (1976-1976).

DILBECK, JAMES DAVID, M.S.
Extension Agent (III), Vegetables, Multi-County (1969-1975).

DILLARD, JEANETTE B., B.S.
Extension Agent-4-H (I), Pasco County (1976-1976).

DORSCHEL, DUSKA MCCANN, M.S.H.E.
Extension Home Economics Agent (I), Duval County (1973-1973).

DOWNING, LELIA, M.S.
Extension Home Economics Agent (I), Alachua County (1976-1976).

DRAVES, DOROTHY ENGLE, B.S.H.E.
Extension Home Economics Agent (III), Pinellas County (1962-1969).

DUKES, NEIL MATTHEW, B.S.
County Extension Director (III), Columbia County (1952-1969).

DURDEN, BOBBY RAY, M.S.
County Extension Director (III), Wakulla County (1961-1968).

DUSSEAULT, BEVERLY, M.S.
Extension Agent Home Economics Program Leader (I), Wakulla County (1974-1974).

ELMORE, ANNIE SUE, M.S.
Extension Home Economics Agent (II), Washington County (1960-1960).

ENGLEBRECHT, PATRICIA, M.S.
Extension Home Economics Agent (I), Broward County (1974-1974).

ESTES, JAMES BARRY, M.Ag.
County Extension Director (III), Franklin County (1958-1969).

EUBANKS, LARRY E., M.S.
Extension Agent — 4-H (I), Alachua County (1976-1976).

FARRELL, ELVA L., B.S.
Extension Agent — 4-H Coordinator (I), Sarasota County (1976-1976).

FINK, WILLARD, M.A.
County Extension Director (I), Union County (1975-1975).

FISHER, JEFFREY A., M.S.
Extension Agent (I) Map, Multi-County, Bay County (1975-1975).

FLOYD, LESTER C., B.S.
Extension Agent —4-H (II), Orange County (1972-1976).

FOWLER, RUTH ANN, M.S.
Extension Home Economics Agent (III), Hillsborough County (1975-1975).

FULMER, ELIZABETH H., M.A.
Extension Agent (I) 4-H, Manatee County (1975-1975).

FULMER, JUDSON TODD, M.Ed.
County Extension Director (II), Nassau County (1957-1966). •

GAVER, TIMOTHY PATRICK
Extension Agent—Multi County, Citrus (I), St. Lucie County (1972-1972).

GEORGE, DONALD ATKINSON, B.S.A.
County Extension Director (II), Sumpter County (1954-1969).

GEYER, KLAUS, B.S.
Extension Agent—Horticulture (I), Pinellas County (1975-1975).

GIFFORD, DOROTHY YOUNG, B.S.
Extension Home Economics Agent (II), Broward County (1962-1967).

GILL, LOUISE L., B.S.H.E.
Extension Home Economics Agent (II), Seminole County (1968-1969).

GLASSCOCK, PAUL EDWIN, B.S.
Extension Agent—Dairying (II), Hillsborough County (1957-1969).

GLEASON, RICHARD, B.S.
Extension Agent—Ornamental Horticulture (I), Charlotte County (1975-1975).

GODBOLD, THOMAS JESSE, B.S.A.
County Extension Director (II), Clay County (1963-1969).

GOLDWEBER, SEYMOUR, B.S.
Extension Agent—Fruit Crops Multi-County (III), (1960-1969).

GRANT, HENRY G., M.S.
Extension Agent (II) FAMU Gadsden County (1973-1973).

GRIFFIS, RALEIGH SIDNEY, M.Ag.
Extension Agent (III), Vegetables and Flowers, Palm Beach County (1949-1970).

GRIGGS, MAX E., M.Ag.
Extension Agent—Soils & Agronomy (I), Escambia County (1976-1976).

HADDOX, JACKSON ALEXANDER, M.Ag.
County Extension Director (III), Lake County (1951-1969).

HALSEY, LAWRENCE A., M.A.
County Extension Director (II), Jefferson County (1976-1976).

HALUSKY, JOSEPH, M.S.
Extension Agent—Map Multi-County (II), St. Johns County (1976-1976).

HALUSKY, MARILYN J., B.S.
Extension Home Economics Agent (II) Duval County (1969-1973).

HAMRICK, OLIVER RUDOLPH, M.Ag.
County Extension Director (IV), Madison County (1950-1969).

HARPER, EMILY G., B.S.
Extension Home Economics Agent (II), Clay County (1966-1972).

HARRELL, AUBREY LUTHER, M.Ag.
County Extension Director (II), Baker County (1950-1952).

HARRINGTON, BEVERLY B., B.S.
Extension Home Economics Agent 4-H (I), Palm Beach County (1973-1973).

HAUSER, GRACE ROBERTS, B.S.
Extension Agent-Home Economics (II), Dade County (1970-1976).

HAYMAN, JACK CARLTON, M.Ag.
County Extension Director (III), Hardee County (1953-1969).

HEBERT, OSCAR JOSEPH, JR., M.S.
Extension Agent—Livestock Multi-County (II) (1967-1969).

HEDGE, SUSAN L., M.S.
Extension Agent-Home Economics (I), Lee County (1976-1976).

HEITMEYER, LAWRENCE ALAN, M.S.
County Extension Agent (I)—4-H Leon County (1973-1973).

HENRY, GEORGE COLBERT, JR., M.Ed.
Extension Agent (I) Leon County (1972-1972).

HINDERY, GEORGE ANTHONY, Ph.D.
County Extension Director (II), DeSoto County (1972-1976).

HINTON, III, CHARLES FRANKLIN, Ph.D.
Extension—Poultry—Multi County (I), Hillsborough County (1972-1972).

HODGES, SHARON P., B.S.
Extension Agent—4-H (I), Hillsborough County (1976-1976).

HOLMES, MARY ALYCE, M.S.
Extension Home Economics Agent (I), Dade County (1966-1966).

HORNICK, CECILY L., B.S.
Extension Agent—4-H (I), Volusia County (1976-1976).

HULL, DEARMAND, L.R., M.S.
Extension Agent, Ornamentals (I), Palm Beach County (1971-1971).

HUMPHRYS, BROOKS, M.A.S.
Extension Agent-Citrus (I), Multi-County (1974-1974).

HURNER, GEORGE TIMOTHY, JR., M.S.
Extension Agent (II), Citrus, Highlands County (1965-1974).

HUTCHESON, CLAYTON ELBERT, M.S.
County Extension Director (II), Palm Beach County (1970-1974).

IVERSON, MARLOWE KEITH, M.S.
Extension Agent (I)-Horticulture & 4-H Manatee County (1974).

JACKSON, ELIZA MOXLEY, B.S.H.E.
County Extension Home Economics Agent (II), Bay County (1962-1962).

JACKSON, JOHN LESLIE, JR., M.Ag.
Extension Agent (III) Citrus, Multi-County (1968-1971).

JASA, FRANK JOSEPH, B.S.A.
County Extension Director (II), Seminole (1957-1969).

JENKINS, GAYLE MASON, M.A.
Extension Home Economics Agent (I), Polk County (1974-1974).

JENSEN, NAN, M.S.
Extension Home Economics Agent (I), Pinellas County (1975-1975).

JETER, ANN PIERCE, B..
Extension Home Economics Agent (III), Okaloosa County (1956-1969).

JONES, ARLEN CUNNINGHAM, B.S.H.E.
Extension Home Economics Agent (III), Palm Beach County (1963-1970).

JONES, DELORIS MAE, B.S.
Extension Home Economics Agent (II), Madison County (1960-1969).

JONES, HAROLD CHARLES, M.A.
Extension Agent, Ornamentals (II), Duval County, (1971-1976).

JONES, JANE, M.S.
Extension Home Economics Agent (I), Bay County (1975-1975).

JONES, SANDRA RAY, B.S.
Extension Home Economics Agent (II), Nassau County (1965-1969).

JOWERS, HENRY EDGAR, B.S.
Extension Agent 4-H & Agriculture (I), Suwannee County (1971-1971).

KELLY, MICHAEL G., M.S.
Extension Agent, Dairy-Multi-County (I), Duval County (1976-1976).

KERSEY, ALICE P., M.S.
Extension Agent 4-H (III), Polk County (1967-1976).

KLATT, ELAINE THERESE, M.S.
Extension Home Economics Agent (I) ENP, Broward County (1974-1974).

LAIRD, CUBIE REVONIE, M.Ed.
County Extension Director (III), Gulf County (1945-1969).

LANDER, DONALD WILSON, M.A.
County Extension Director (IV), Collier County (1950-1970).

LAWLOR, FRANK J., M.S.
Extension Agent Map Multi-County (I), Palm Beach County (1976-1976).

LEVY, MARGARET MCLENDON, B.S.
Extension Home Economics Agent (I), 4-H, Santa Rosa County (1974-1974).

LINKER, MICHAEL M.A.
Extension Agent-Pest Management (I), Jackson County (1975-1975).

LISTER, OPAL, B.S.
Extension Home Economics Agent (I), Escambia County (1975-1975).

LLEWELLYN, WILLIAM R., M.S.A.
Extension Agent (II), Broward County (1973-1973).

LOADHOLTZ, JOSEPH LOWELL, M.A.
County Extension Director (IV), Brevard County (1961-1976).

LOADHOLTZ, LARRY LEWIS, M.S.
County Extension Director (1961-1976).

LOWERY, CHARLIE AVERY, M.S.
Extension Agent (I) 4-H-Ornamentals, Collier County (1974-1974).

LUKOWSKI, JUDITH ANN, B.S.
Extension Home Economics Agent (I), Levy County (1974-1974).

LUMAN, LINDA W., B.S.
Extension Agent Home Economics—4-H (II), Orange County (1968-1972).

MACCUBBIN, THOMAS J., M.S.
Extension Agent Horticulture (III), Orange County (1972-1976).

MARSHALL, DAVID W., M.S.
Extension Agent-Ornamentals (I), Leon County (1976-1976).

MARTIN, JULIANN STOUGH, B.S.
Extension Home Economics Agent (I) ENP 4-H, Polk County (1974-1974).

MASTERYANNI, JANITH, M.S.
Extension Home Economics Agent (III), Dade County (1974-1974).

MCCALL, JAMES C., M.S.
County Extension Director (II), St. Lucie County (1961-1976).

MCCOY, SANDRA LEE, B.S.
Extension Home Economics Agent (I) ENP Duval County (1973-1973).

MCDERMOTT, DOUGLAS S., M.S.
Extension Agent—4-H Coordinator (I), Hillsborough County (1976-1976).

MCGUIRE, JOHN FRANCIS, M.S.
Extension Agent (II) Marketing, Dade County (1974-1974).

MEADOWS, JEANNETTE, M.S.
Extension Home Economics Agent (III), Sarasota County (1965-1976).

MILLER, ELSIE T., M.S.
Extension Agent Home Economics Program Leader (I), Jefferson County (1976-1976).

MILLER, RUTH ANN, B.S.
Extension Home Economics Agent (III), Polk County (1969-1973).

MONTGOMERY, ROBERT TERRENCE, M.Ag.
Extension Agent—4-H (II), Manatee County (1968-1976).

MOORE, MARY ALLEN, M.A.T.
Extension Home Economics Agent (III), Orange County (1954-1969).

MOORE, RALPH WILLIAM, B.S.
Extension Agent—Communications & 4-H (II), Dade County (1967-1969).

MORRIS, JAMES B., III, M.S.A.
County Extension Director (II), Lafayette County (1970-1973).

MOTT, CAROLE ELAINE BAILEY, B.S.
Extension Home Economics Agent (1) Taylor County (1973-1973).

MULLINS, DANIEL EUGENE, M.S.
Extension Agent, Ornamentals (II), Escambia County (1970-1972).

MULLINS, VICKI, M.S.
Extension Agent—Home Economics (1) ENP 4-H, Escambia County (1971-1973).

MURARO, RONALD PETER, M.S.
Extension Agent, Farm Management (II), Polk County, (1971-1971).

NEALY, JAMES ALVIN, M.A.
County Extension Agent (1) FAMU Jefferson County (1973-1973).

NEWBURY, GEORGE H., M.S.A.
County Extension Director (II), Flagler County (1970-1973).

NEWTON, ROGER DALE, M.S.
Extension Agent—Ornamental Horticulture (III), Hillsborough County (1972-1976).

NIX, FERN SULPHIN, M.S.H.E.
Extension Agent—Home Economics (III), Santa Rosa County (1954-1976).

NORTON, MARTHA BURDINE, M.S.H.E.
Extension Home Economics Agent (II), Martin County (1952-1956).

O'NEAL, JANICE H., B.S.
Extension Agent Home Economics (I), Clay County (1974-1974).

OSWALT, THOMAS W., M.S.
Extension Agent-Citrus (III), Polk County (1963-1969).

PARRAMORE, ANN W., M.S.
Extension Agent Home Economics Program Leader (II), Leon County (1967-1972).

PARRISH, JAMES LOWELL, B.S.A.
Extension Agent 4-H (I), Bradford County (1972-1972).

PATTEN, JACK DOWELL, B.S.A.
County Extension Director (III), Okaloosa County (1955-1969).

PAULK, HARVEY T., M.Ag.
County Extension Director (III), Leon County (1969-1972).

PEEL, CATHY MOZLEY, M.S.
Home Economics Agent (I) ENP, Jackson County (1974-1974).

PENNER, RUTH TAYLOR, B.S.
Extension Home Economics Agent (II), Hillsborough County (1970-1970).

PHILLIPS, WILLIAM JOSEPH, JR., M.S.
Extension Agent—Horticulture Multi-County (II), (1967-1969).

PODRIS, FLEWELLYNN W., B.S.
Extension Agent 4-H Coordinator (I), Alachua County (1976-1976).

POSPICHAL, MARION THOMAS,M.S.
Extension Agent-Vegetables (I), Hillsborough County (1976-1976).

PRICE, RAYBURN KENNETH, M.Ag.
County Extension Director (IV), Okeechobee County (1952-1976).

RENNER, ROBERT LEWIS, JR., M.A.
Extension Agent (I)—4-H Marion County (1973-1973).

RICHARDS, JAMES EDWARD, M.S.A.
Extension Agent—Citrus (II), Hillsborough County (1969-1970).

ROBERTSON, EDWENA JEANETTE, B.S.H.E.
Extension Home Economics Agent (III), Escambia County (1954-1969).

ROE, MARY ANN, B.S.
Extension Home Economics Agent (II), Desoto County (1967-1967).

ROSE, SYLVESTER A., M.S.
Extension Agent - Ornamentals (IV) Brevard County (1956-1973).

ROWAN, CHARLES EDISON, M.Ag.
Extension Agent Livestock-4-H (II), Lake County (1954-1969). *

ROWAN, EDSEL WRIGHT, B.S.A.
County Extension Director (III), Marion County (1950-1969).

ROZAR, LUTHER LYNSON, M.Ag.
County Extension Director (III), Sarasota County (1958-1969).

RUSSELL, JOHN COLEMAN, M.Ag.
County Extension Director (IV), Gadsden County (1952-1970).

RYAN, STEPHEN O., Ph.D.
County Extension Director (II), Dade County (1976-1976).

SATCHER, JOY WREN, B.S.
Extension Home Economics Agent (II), Brevard County (1966-1971).

SCHRADER, DAN EDWARD, M.S.
Extension County Agent (I), Polk County (1974-1974).

SCOTT, LENZY MAURICE, M.Ag.
Extension Agent--Beef Cattle Multi-County (II), (1955-1969).

SEAWRIGHT, TRAVIS, B.S.
Extension Agent-Livestock (I), Manatee County (1975-1975).

SHAW, SUSAN KAY, B.S.
Extension Home Economics Agent (I), Manatee County (1974-1974).

SHIRAR, MARYLOU WAYMIRE, M.S.
Extension Home Economics Agent—4-H (III), Palm Beach County (1959-1970).

SHOOK, ELAINE, M.S.
Extension Home Economics Agent (I), Leon County (1975-1975).

SHULER, KENWETH D., M.S.
Extension Agent—Vegetables & General Agriculture (I), Palm Beach County (1976-1976).

SIMPSON, KAREN, B.S.
Extension Home Economics Agent (I), Sumpter County (1975-1975).

SIMPSON, VICTORIA MAGALINE, B.S.
Extension Home Economics Agent (II), Dade County (1949-1970).

SISTRUNK, LAURENCE ALLEN, M.S.
Extension Agent - Horticulture (1) Lake County (1973-1973).

SMITH, CLARA ANN, B.S.
Extension Home Economics Agent (II), Pasco County (1963-1963).

SMITH, JAMES BLANCHARD, B.S.A.
County Extension Director (III), Osceola County (1950-1969).

SMITH, PATRICIA ANN, M.S.
County Extension Director (I), Charlotte County (1974-1974).

SMITH, WILLIAM CARLTON, Ph.D.
County Extension Director (III), Suwannee County (1957-1975).

SOMERS, MARY B., B.S.
Extension Home Economics Agent (I), Hillsborough County (1974-1974).

SPEARS, JACK JAMES, M.S.
Extension Agent—Agriculture (III), Santa Rosa County (1965-1976).

SPELBRING, MARK C., M.S.
Extension Agent—Livestock (I), Pasco County (1976-1976).

STANLEY, PAULA PARIS, B.S.
Extension Home Economics Agent (II), Citrus County (1964-1964).

STEPHENS, ERNEST LEE, M.S.A.
Extension Agent 4-H (I), Duval County (1972-1972).

SUMMER, SIDNEY LANIER, M.S.
Extension Agent—Beef Cattle (III), Polk County (1965-1969).

SUMMER, JAMES DANIEL, B.S.A.
Extension Agent—Livestock (I), Pasco County (1972-1972).

SWANSON, HENRY FREDERICK, M.S.A.
County Extension Director (IV), Orange County (1948-1969).

SWEAT, DONALD E., M.S.
Extension Agent—Map Multi-County (I), Pinellas County (1976-1976).

TAYLOR, BOBBY LEE, M.Ag.
County Extension Director (II), Bradford County (1963-1971).

TAYLOR, DORIS, M.S.
Extension Home Economics Agent (I), Lake County (1973-1973).

TAYLOR, LAWRENCE DENNIS, M.Ag.
County Extension Director (II), Holmes County (1954-1958).

TAYLOR, MEREDITH C., M.S.
Extension Home Economics Agent (II), Suwannee County (1969-1975).

THOMAS, JACQUELINE B., M.S.
Extension Agent Home Economics Program Leader (I), Baker County (1976-1976).

THOMAS, SARAH KYLER, B.S.
Extension Home Economics Agent (II), Marion County (1954-1969).

THOMASTON, JAMES EDSEL, M.Ag.
County Extension Director (III), Walton County (1954-1969).

THOMPSON, ESSIE HOGAN, B.S.H.E.
Extension Home Economics Agent (II), Putnam County (1961-1963).

TILESTON, MARILYN DIETRICH, B.S.
Extension Home Economics Agent (II), Osceola County (1956-1956).

TOWNSEND, JO M., B.S.
Extension Agent—Home Economics Program Leader (I), Brevard County (1972-1972).

VERNON, BETTY MARTIN, B.S.H.E.
Extension Home Economics Agent (III), Volusia County (1969-1976).

WADE, GARY LEE, M.S.
Extension Agent—Citrus (I), Multi-County (1976-1976).

WADE, WAYNE THEODORE, M.Ed.
Extension Agent—Beef (II), Hillsborough County (1961-1969).

WAKEFIELD, JUDITH, M.S.
County Extension Director (II), Indian River County (1975-1975).

WALTHALL, CHARLES MIDDLETON, M.S.
Extension Agent (III), Beef Cattle, Multi-County (1966-1969).

WARNER, RICHARD E., Ph.D.
Extension Agent (II), Monroe County (1974-1974).

WASHINGTON, MARTHA MARIE, B.S.
Extension Home Economics Agent (I), Leon County (1970-1970).

WATSON, LEWIS ELBYRNE, M.Ag.
County Extension Director (IV), Broward County (1955-1971).

WEATHERS, BRENDA JO, M.S.
Extension Agent Home Economics Program Leader (I), Holmes County (1976-1976).

WEAVER, MARVIN FRANKLIN, M.S.
Extension Agent 4-H (II), Escambia County (1972-1976).

WEBER, JOHN B., M.Ed.
Extension Agent—4-H (I), Hernando County (1976-1976). (1963-1969).

WEST, LINDA KAY, M.S.
Extension Home Economics Agent (I) Escambia County (1973-1973).

WHIGHAM, NANCY BRIGHTMAN, B.S.H.E.
Extension Home Economics Agent (II), Pinellas County (1962-1962).

WHITE, WYLMA BLODGET, M.S.H.E.
Extension Home Economics Agent (II), Hamilton County (1955-1955).

WHITTON, GILBERT MARSHALL, M.Ag.
County Extension Director (III), Pinellas County (1957-1969).

WHITTY, ROBERT BEZELLE, M.S.
County Extension Director—Horticulturist (II), Martin County (1965-1970).

WILLIAMS, MARJORIE LUDEMAN, B.S.H.E.
Extension Home Economics Agent (III), Orange County (1952-1969).

WILLIAMS, URSULA HICKS, B.S.
Extension Home Economics Agent (II), Gadsden County (1951-1969).

WOMBLE, WILLIAM ROBERT, B.S.A.
Extension Agent — 4-H and Agriculture, (II), Levy County (1966-1971).

WYRICK, JERRY ALLEN, M.S.
Extension Agent — 4-H (II), Calhoun County (1967-1970).

YATES, DIANE ELIZABETH, B.S.
Extension Home Economics Agent (I), Volusia County, (1971-1971).

YELVINGTON, JAMES RUSSELL, M.Ag.
County Extension Director (3) Calhoun County (1973-1973).

YINGST, VICTOR W., B.S.
Extension Agent-Horticulture (I), Lee County (1976-1976).

YOUNG, BECKY EPPERLY, B.S.
Extension Home Economics Agent (I), 4-H, Walton County (1974-1974).

ZABOR, MARCIA L., B.S.
Extension Agent Home Economics (I), Marion County (1976-1976).

ZORN, NANCY E., B.S.
Extension Agent — 4-H (I), Columbia County (1976-1976).

ZORN, WILLIAM C., M.Ag.
County Extension Director (3) Santa Rosa County (1949-1973).

MEMBERS OF THE FACULTY WHO RETIRED SINCE 1960 AND THOSE WITH EMERITUS STATUS

ADAMS, FRANK THOMPSON, Ed.D. (University of Florida)
Dean for Student Development, Emeritus (1973).

AHRANO, ELIZABETH CERMAK
Extension Home Economics Agent (I), IFAS, County Work (1972).

AHRENS, MAURICE RUSSELL, Ed.D.
Professor Emeritus of Materials Science and Engineering (1973).

ALBRECHT, RUTH E., Ph.D. (University of Chicago)
Professor Emeritus of Sociology (1975).

ALLEGER, DANIEL EUGENE, M.S. (Pennsylvania State University)
Associate Professor Emeritus, Food and Resource Economics Department, IFAS (1973).

ALLEN, VIRGINIA FRICK, M.Ed.
Instructor, P.K. Yonge Laboratory School (1975).

ALLISON, ROBERT VERRILL, Ph.D. (Rutgers University)
Fiber Technologist Emeritus, Everglades Experimental Station (1965).

ALSTON, CLIFFORD, M.S.A.
Professor Emeritus of Agricultural Economics (1971).

ANDERSON, MONTGOMERY D., Ph.D. (Brookings)
Professor Emeritus of Economics (1971).

APPERSON, FRANCES EUGENIA, B.A. in L.S.
Librarian and Chairperson of Documents Department (1975).

ARNETT, WILLIAM TOBIAS, M.A. Arch.
Professor of Architecture; Dean Emeritus, College of Architecture and Fine Arts (1974).

ARNOLD, LUTHER A., Ed.D.
Associate Professor Emeritus of Education (1973).

ARNOLD, P.T., M.S.A.
Associate Professor Emeritus, RFUF (1959).

ATKINS, CEDRIC DONALD
Professor, IFAS, AREC, Lake Alfred (1972).

AUSTIN, OLIVER LUTHER, JR., Ph.D. (Harvard University)
Curator Emeritus of Ornithology, Florida State Museum (1973).

BACHMAN, HAROLD BURTON, B.S.
Professor Emeritus of Music (1961).

BANNISTER, TURPIN CHAMBERS, Ph.D. (Harvard University) D.F.A. (Denison University)
Professor of Architecture and Dean Emeritus of the College of Architecture and Fine Arts.

BARRON, DONALD H., Ph.D. (Yale University)
Professor of Obstetrics and Gynecology (1975).

BASSETT, MAMIE G., B.S.H.E. (Univ. of Tennessee)
Extension Agent III (1975).

BAUGHAN, DENVER EWING, Ph.D. (Yale University)
Professor Emeritus of English (1967).

BAULT, ROGER QUINCY, M.A.
Assistant Professor Emeritus of Physical Science, RFUF (1966).

BEARD, PERCY M.
Associate Professor Emeritus, RFUF.

BEATY, ROBERT C., M.A. (Vanderbilt)
Dean of Students, Emeritus (1960).

BEAUVAIS, JUNE T., B.A. (Piedmont College)
Instructor (1973).

BECKENBACH, JOSEPH RILEY, Ph.D. (Rutgers University)
Director Emeritus of Agriculture Experiment Station (1967).

BECKER, RAYMOND BROWN, Ph.D. (University of Minnesota)
Professor Emeritus of Dairy Science; Dairy Husbandman Emeritus, Agriculture Experiment Station (1963).

BECKWITH, STEPHEN L., Ph.D. (University of Michigan)
Associate Professor Emeritus, IFAS, School of Forest Resources and Conservation, Agricultural Experiment Station (1971).

BENNETT, S. FLEMING B.S.L.S.
Assistant Director of Libraries (1976).

BINGHAM, N. ELDRED, Ph.D. (Columbia University)
Professor Emeritus of Education (1971).

BLACK, ALVIN PERCY, Ph.D. (University of Iowa)
Research Professor Emeritus of Chemistry and Professor Emeritus of Environmental Engineering Sciences (1966).

BLACKMON, GULIE H., M.S.A.
Horticulturist Emeritus, Agricultural Experiment Station (1954).

BLAKE, ROBERT GEORGE, Ph.D. (University of Florida)
Associate Professor Emeritus of Mathematics (1976).

BLALOCK, LEWIS F.
Director of Admissions Emeritus (1966).

BLANTON, FRANKLIN S., Ph.D. (Cornell University)
Professor Emeritus of Entomology (1974).

BLEDSOE, SUE B., B.S. (W. Kentucky State Univ.)
Extension Agent III (1976).

BLOCK, HERMAN H., C.E.
Professor Emeritus of Building Construction and Chairman of the Department (1963).

BLODGETT, RALPH HAMILTON
Professor Emeritus of Economics (1976).

BOURKE, NORMAN, M.E.
Professor Emeritus of Mechanical Engineering (1960).

BOYD, FREDERICK TILGHMAN, Ph.D. (University of Wisconsin)
Professor Emeritus (Agronomist), IFAS (1974).

BRADBURY, ROBERT WESLEY, Ph.D. (University of Michigan)
Professor Emeritus of Economics (1975).

BRADLEY, RICHARD L., B.S.A.
Extension Agent (I), Sumter County (1974).

BRADY, MARNA V., Ed.D. (Columbia University)
Professor Emeritus of Comprehensive Logic (1971).

BRANDT, A.E., Ph.D. (Iowa State University)
Professor Emeritus of Statistics; Station Statistician Agriculture Experiment Station (1963).

BRINKLEY, HARRY J.,
County Agent Emeritus, RFUF.

BRISTOL, LORIS R., M.A. (University of Florida)
Assistant Professor Emeritus in Counseling Education (1969).

BRISTOR, JOHN D., M.S.
Professor Emeritus of Building Construction (1973).

BROOKER, MARVIN A., Ph.D. (Cornell University)
Professor and Dean Emeritus, IFAS (1971).

BROWN, WOODROW W., M.Ag. (University of Florida)
Professor Emeritus, IFAS, Cooperative Extension Service (1972).

BUNTING, DONALD CHARLES, M.S.
Associate Professor of Physical Sciences (1975).

BUSBY, JOE NEIL, Ph.D. (University of Florida)
Professor, Dean for Cooperative Extension Services, IFAS (1976).

CAKE, EDWIN W., Ph.D. (Cornell University)
Professor Emeritus, IFAS, Agricultural Experiment Station, Food and Resource Economics (1972).

CALDWELL, WOFFORD, T., M.S.E.D.
Associate Professor Emeritus of Building Construction (1971).

CAMP, ARTHUR F., Ph.D. (Washington University)
Vice Director Emeritus, Citrus Experimental Station (1956).

CAMP, SUSAN C., M.S. (Columbia University)
Associate Professor Emeritus, IFAS, Florida Cooperative Extension Service (1971).

CAMPBELL, JOHN D., B.S.A.
County Extension Director (III), Dade County (1975).

CARLETON, WILLIAM G., J.D. , M.A.
Professor Emeritus of History and Political Science (1961).

CARLSON, Earl C., M.A. (Boston University)
Associate Professor (1974).

CARROLL, WILLIAM R., Ph.D. (University of Minnesota)
Professor Emeritus of Bacteriology (1966).

CARSON, MARION C., M.B.A. (University of Florida)
Assistant Professor, RFUF.

CARVER, WILLIAM A., Ph.D. (State University of Iowa)
Professor Emeritus of Agronomy, IFAS (1964).

CHRISTIE, JESSE R., Ph.D. (George Washington)
Nematologist Emeritus, Agricultural Experiment Station (1960).

CLARK, VERNON W., M.A. (New York U.)
Professor (1974).

CLARK, VERNON WILMOT, J.D.
Professor of Law (1974 .

CLUFF, LEIGHTON, E., M.D. (George Washington University)
Professor, Department of Medicine (1976..

COLE, MOSES MCWILLIE, B.S. (Mississippi State University)
Assistant Professor (Assistant Entomologist), IFAS (1975).

COMBS, ARTHUR, WRIGHT, Ph.D. (Ohio State University)
Professor Emeritus in Education (1976).

CONNER, FREDERICK W.
Vice President for Academic Affairs, Academic Affairs (1971)

CONSTANS, HENRY P., LL.B., M.A. (University of Iowa)
Professor Emeritus of Speech (1965).

COOPER, ALICY JOYCE, Ed.D. (Columbia University)
Professor Emeritus of Education (1974).

COOPER, JOHN F., M.S.A.
Professor Emeritus, Agricultural Extension Service (1961).

COWEN, WILLIAM JOSHUA, B.S.A.
County Extension Director (III), Union County (1976).

COX, E. H., Ph.D. (University of North Carolina)
Professor Emeritus, English, Arts & Sciences (1972).

CREIGHTON, JOHN THOMAS, Ph.D. (Ohio State University)
Professor Emeritus of Entomology (1969).

CRIST, RAYMOND E., Docteur Es Lettres (Genoble, France)
Research Professor Emeritus of Geography (1975).

CROUGH, HELEN JOHNSON, M.A.
Assistant Professor, P.K. Yonge Laboratory School (1975).

CUMBEE, CARROLL F., SR., M.A.E. (University of Chicago)
Associate Professor Emeritus of Education (1969).

CUNHA, TONY JOSEPH, Ph.D. (University of Wisconsin)
Distinguished Service Professor Emeritus (Animal Nutritionist) and Chairperson of Animal Science Department, IFAS, (1975).

CUNNINGHAM, MYRON ARTHUR, Ed.D. (Northwestern University)
Professor Emeritus of Education (1975).

CUTLER, RONALD JOHN, Ed.D. (Columbia University)
Associate Professor of English (1974).

DANIS, ANTHONY L., M.S. (Harvard University)
Professor Emeritus of Environmental Engineering Sciences (1967).

DAVAULT, JAMES W., Ph.D. (Columbia)
Professor Emeritus of Business Administration (1970).

DAVIDSON, ROBERT F., Ph.D. (Yale University)
Professor Emeritus of Humanities (1962).

DAVIS, JOHN H., Ph.D. (University of Chicago)
Professor Emeritus of Botany, IFAS (1969).

DAWSEY, POSTELLE GILPIN
County Extension Home Economics Agent (III), Institute of Food and Agricultural Sciences, Florida Agricultural Extension Service, County (1972).

DECKER, PHARES, Ph.D. (Cornell University)
Professor Emeritus (Plant Pathologist), IFAS (1976).

DEINZER, HARVEY T., J.D., Ph.D. (University of Michigan)
Professor Emeritus of Accounting (1973).

DEKLE, GEORGE W., B.S.A. (University of Florida)
Associate Professor (1976).

DICKENSON, CARRIE E., M.S.
Professor Emeritus, IFAS (1969).

DICKENSON, ELIZABETH, M.A. (Univ. of Tennessee)
Professor Emeritus, RFUF (1969).

DICKEY, RALPH DAVIS, M.S.A. (Cornell University)
Professor Emeritus (1973).

DIXON, BARMELL BLEDSOE, B.S.H.E.
Extension Home Economics Agent (III), Pasco County (1976).

DOTY, FRANKLIN A., Ph.D. (University of Iowa)
Professor of History and Social Sciences and Dean Emeritus of University College (1971).

DRAGSTEDT, LESTER R., Ph.D. (Rush Medical College)
Research Professor Emeritus of Surgery and Professor Emeritus of Physiology (1973).

DURRANCE, CHARLES L., Ed.D. (Columbia Univ.)
Professor Emeritus of Education (1975).

DURRE, NOLAN L., M.S.
Extension Agent (III)—Vegetables, Dade County (1974).

EATON, ELIZABETH S., M.A.
University Librarian Emeritus, Health Center Library and Professor of Clinical Pharmacy (1975).

EBAUGH, NEWTON C.
Chairperson and Professor Emeritus, RFUF (1950).

EBY, EDNA S.
Extension Home Economics Agent (III), Volusia County, IFAS, Florida Cooperative Extension Service, County Work (1971).

EDEN, WILLIAM GIBBS, Ph.D. (University of Illinois)
Professor Emeritus (Entomologist) and Chairperson, Entomology Department, IFAS (1975).

EDSON, SETON N., M.S. (University of Florida)
Associate Professor of Soils (1970).

EDWARDS, RICHARD A., Ph.D. (UNC-Chapel Hill)
Professor Emeritus of Geology (1974).

EGGERT, CHESTER LEE, Ed.D. (University of Indiana)
Professor Emeritus of Education (1975).

ELKINS, RUTH MCKEOWN
Extension Home Economics Agent (III), Polk County, IFAS, Florida Cooperative Extension Service, County Work (1972).

ENWALL, HAYFORD OCTAVIUS, J.D. (Univ. of Florida)
Professor of Law (1976).

EUTSLER, ROLAND B., Ph.D. (University of Pennsylvania)
Professor Emeritus of Economics, Business Administration (1970).

FAIN, JOHN TYREE, Ph.D. (Vanderbilt University)
Professor Emeritus of English (1975).

FAIRING, ROBERT LEWIS
Associate Dean and Associate Professor, Division of Continuing Education (1972).

FENN, HENRY A., LL.B. (Yale University)
Dean Emeritus and Professor, Law (1959).

FERNANDEZ, PEDRO VILLA, M.A.
Professor Emeritus of Spanish (1966).

FIFIELD, WILLARD M., M.S.
Provost Emeritus for Agriculture (1962).

FLANIGAN, FRANK M., M.S., M.E.
Professor Emeritus of Mechanical Engineering (1970).

FOOTE, PERRY A., Ph.D. (University of Wisconsin)
Dean Emeritus of the College of Pharmacy and Professor of Pharmaceutical Chemistry (1967).

FORD, ERNEST S., Ph.D. (University of Chicago)
Professor Emeritus of Botany (1971).

FORSEE, WILLIAM T., Ph.D. (University of Florida)
Chemist Emeritus and Head Everglades Experimental Station (1968).

FORSMAN, MARION E., Ph.d. (Iowa State University)
Professor Emeritus of Electrical Engineering (1974).

FOSTER, CHARLES R., Ed.D. (Harvard University)
Professor Emeritus of Education (1966).

FOUTS, EVERETT L., Ph.D. (State University of Iowa)
Professor of Dairy Science and Dairy Technologist Emeritus, IFAS (1970).

FOX, LAURETTA E., Ph.D. (University of Illinois)
Associate Professor of Pharmacology and Therapeutics (1975).

FRAZER, PERCY W., M.S. (Yale University)
Associate Professor (1975).

FRENCH, ROWLAND B., Ph.D. (University of Iowa)
Biochemist Emeritus, Agricultural Experiment Station (1967).

GAGER, WILLIAM ARKINS, Ph.D. (Peabody College)
Professor Emeritus of Mathematics (1968).

GAHAN, JAMES B., M.S.
Professor of Entomology and Administrative Officer, USDA, Entomology Research Laboratory (1970).

GAINES, CAROLYN J., M.S. (Florida State University)
Associate University Librarian (1976).

GARRIS, EDWARD W., Ph.D. (Peabody University)
Head and Professor Emeritus, RFUF (1962).

GELTZ, CHARLES G., M.S.F. (Univ. of California)
Professor Emeritus, RFUF (1966).

GILBRAITH, KENNETH MARSHBURN, M.S.A.
Associate Professor, Food and Resource Economics Department, IFAS (1975).

GILCREAS, F. WELLINGTON, B.A. (Harvard University)
Professor Emeritus of Environmental Engineering Sciences (1968).

GLENN, WOODROW W., M.A. (University of Florida)
County Agent III (1975).

GODWIN, GRANT MURRAY, M.AG.
Associate Professor (Associate State 4-H Club Agent), IFAS (1974).

GOIN, COLEMAN J., Ph.D. (University of Florida)
Professor Emeritus of Biological Sciences and Zoology (1971).

GOODWIN, FRANK, Ph.D. (University of Pennsylvania)
Professor Emeritus of Marketing (1965).

GOUCK, HARRY KYDD, M.S. (University of Massachusetts)
Associate Professor (Associate Entomologist), USDA, IFAS (1974).

GRAND, JOHN LOUIS ROCHON, M.A.
Professor Emeritus of Architecture (1975).

GREENE, ROBERT EDWARD LEE, Ph.D. (Cornell University)
Professor Emeritus, Food and Resource Economics Department, IFAS (1975).

GREENMAN, JOHN ROOSEVELT, J.D. (University of Florida)
Professor Emeritus, Food and Resource Economics Department, IFAS (1973).

GREGORY, MARJORIE BUTLER, B.S.H.E.
Extension Home Economics Agent (III), Gadsden County (1974).

GRIFFITH, MILDRED, Ph.D. (University of California)
Professor Emeritus of Botany (1976).

GRIGSBY, SHAW EARL, Ph.D. (Cornell University)
Professor (Extension Program Specialist), IFAS (1975).

GRINTER, LINTON E., Ph.D. (University of Illinois)
Dean Emeritus and Professor (1973).

GROTH, JOHN H., Ph.D. (University of Washington)
Professor Emeritus of Humanities (1963).

HADLOCK, EDWIN H., Ph.D. (Cornell University)
Professor Emeritus, Arts & Sciences, Mathematics (1972).

HALE, LESTER L., Ph.D. (Louisiana State University)
Vice President for Student Affairs and Professor of Speech Emeritus (1973).

HAMILTON, HENRY G., Ph.D. (Cornell University)
Professor Emeritus of Agricultural Economics and Agricultural Economist Emeritus, Agricultural Experiment Station and Agricultural Extension Service (1965).

HANNA, PAUL L., Ph.D. (Stanford Univ.)
Professor Emeritus, RFUF (1972).

HARPER, VERNE L., Ph.D.
Professor Emeritus, Forestry (1972).

HARRIS, BERT J., Jr., B.S.A. (University of Florida)
County Agent III (1975).

HARRIS, HENRY C., Ph.D. (Cornell University)
Professor Emeritus of Agronomy, IFAS (1969).

HARROWER, MOLLY, Ph.D. (Smith College)
Professor Emeritus of Clinical Psychology (1975).

HART, THOMAS ALONZO EDWARD, Ph.D. (University of Michigan)
Professor of Humanities (1972).

HATCHER, WILLIAM, B.S.A. (University of Arkansas)
County Agent III (1975).

HAYES, FRANCIS C., Ph.D. (University of North Carolina)
Professor Emeritus of Spanish (1973).

HAYNIE, JOHN D., B.S.A.
Professor Emeritus of Entomology (1971).

HAYWARD, FREDERICK WARREN, Ph.D. (Cornell University)
Associate Professor (Associate Biochemist), IFAS, Agricultural Research and Educational Center, Lake Alfred (1975).

HEBERT, LEO P., Ph.D. (Louisiana State University)
Professor (1971).

HENDERSON, JOSEPH R., M.S.
Professor Emeritus (1969).

HESTER, JANICE P., B.S. (Univ. of Illinois)
Assistant University Librarian, RFUF.

HETRICK, LAWRENCE A., Ph.D. (Ohio State University)
Professor Emeritus, IFAS, Entomology and Nematology (1972).

HICKS, ROBERTA CHERRY, B.S.
Extension Home Economics Agent (II), Baker County (1974).

HINCKLEY, ELMER DUMOND, Ph.D. (University of Chicago)
Professor Emeritus of Psychology, Associate, University Counseling Center (1963).

HOLLINSHEAD, BYRON S., M.A., LL.D. (Grinnel University) L.H.D. (Miami University)
Professor of Humanities and Dean Emeritus of University College (1967).

HOLLIS, ROBERT P., B.S.
Assistant Professor Emeritus of Industrial and Systems Engineering (1968).

HORN, GRANVILLE CLIDE, Ph.D. (University of Florida)
Professor Emeritus (Ornamental Horticulturist), IFAS (1974).

HORNE, EDWARD PORTER, Ph.D. (University of Iowa)
Professor Emeritus of Psychology (1976).

HUEFF, GEORGE B., Ph.D. (University of Pennsylvania)
Professor Emeritus of Economics (1971).

HUNTER, GEORGE W., III, Ph.D. (University of Illinois)
Professor Emeritus of Microbiology (1967).

HUSA, WILLIAM J., Ph.D. (University of Iowa)
Head Professor Emeritus of Pharmacy (1961).

HUTCHERSON, WILLIAM R., Ph.D. (Cornell University)
Professor Emeritus of Math (1969).

INGLE, DONA A., M.S. (University of Missouri)
Home Economics Agent II (1974).

JACKSON, ELMO L., Ph.D. (Harvard University)
Professor Emeritus of Economics (1975).

INGLE, KELSEY H., M.S. (University of N. Carolina)
Instructor Emeritus, RFUF, College of Engineering (1975).

JOHNS, ROE L.
Professor of Education, Education Administration (1971).

JOHNSON, CARL HENRY, Ph.D. (University of Washington)
Professor Emeritus of Pharmacognosy (1976).

JOHNSON, ROY IVAN, Ph.D.
Office of the Dean (1972).

JOHNSON, WARREN O., B.A.
Professor (1970).

JONES, ELISE C., B.A. (Agnes Scott)
Research Instructor Emeritus, Business Administration, Bureau of Economics)

JONES, EDMUND RUFFIN, Ph.D. (University of Virginia)
Professor Emeritus of Zoology (1976).

JORGENSON, MILFORD CHRISTEN
Extension Agent, Horticulture (III), IFAS, County Work (1972).

JOYCE, JAMES B., D.D.S. (Marquette University)
Clinical Associate Professor (1975).

KAUFMAN, CLEMENS MARCUS, Ph.D. (University of Minnesota)
Professor (Silvic), IFAS (1976).

KELSHEIMER, EUGENE G., Ph.D. (Ohio State University)
Professor Emeritus, IFAS, Gulf Coast Experimental Station (1969).

KEPPEL, REUBIN A., M.S.E. (University of Florida)
Assistant Professor of Chemical Engineering (1973).

KIDDER, RALPH W., M.S.
Professor Emeritus of Animal Husbandry (1968).

KIKER, JOHN E., M.C.E.
Professor Emeritus of Civil Engineering (1969).

KILBY, JOHN D., Ph.D. (University of Florida)
Associate Professor Emeritus (1974).

KILLINGER, GORDON BEVERLY, Ph.D. (Iowa State University)
Professor Emeritus, (Forage and New Crops Management) and Assistant Chairperson, Department of Agronomy, IFAS, RFUF (1975).

KINARD, DRAYTON TUCKER, Ph.D. (Michigan State University)
Professor Emeritus (Agricultural Engineer), IFAS (1974).

KIRK, WILLIAM G., Ph.D. (Iowa State University)
Animal Scientist and Vice-Director Emeritus, Range Cattle Experimental Station (1968).

KISER, LORA A., M.S. (North Carolina State Univ.)
Professor Emeritus (Extension Home Economist), IFAS (1976).

KLUGE, RALPH W.
Professor Emeritus of Civil Engineering (1971).

KNORR, LOUIS C., Ph.D. (Cornell University)
Professor Emeritus, IFAS (1971).

KNOWLES, HAROLD L., Ph.D. (Kansas University)
Professor Emeritus, University College, Physical Sciences (1972).

KOKOMOOR, FRANKLIN W., Ph.D. (University of Michigan)
Professor Emeritus of Math and Astronomy and Head of Department (1960).

KRIENKE, WALTER ALBERT, M.S.
Associate Professor Emeritus (Associate Dairy Technologist), IFAS (1976).

KRONSBEIN, JOHN
Professor Emeritus of Metallurgical and Materials Engineering (1971).

KUITERT, LOUIS C., Ph.D. (University of Kansas)
Prof (1976).

KUNDEL, TEWES, M.S.
Associate Professor Emeritus of Electrical Engineering (1970).

KURTZ, ALBERT K., Ph.D. (Ohio State University)
Professor Emeritus of Psychology (1968).

LACKEY, JAMES BRIDGES, Ph.D. (Columbia University)
Professor Emeritus of Environmental Engineering Sciences (1966).

LAESSLE, ALBERT M.
Associate Professor, Arts & Sciences, Zoology (1972).

LANE, DAVID, Ph.D. (Columbia University)
Professor of Education (1975).

LARRICK, THOMAS, M.Arch.
Professor Emeritus of Architecture (1971).

LAUTER, WERNER M.
Professor Emeritus, (1970).

LAWRENCE, FRED PARKER, M.S.A. (University of Florida)
Professor Emeritus of Fruit Crops (Citriculturist), IFAS (1974).

LEAVITT, BENJAMIN BURTON, Ph.D. (Harvard University)
Associate Professor of Zoology (1976).

LEBER, GAIL W.
Assistant Professor (Assistant Meteorologist) IFAS, NWS, Agricultural Research Center, Lakeland (1975).

LEE, ROBERT C., Ph.D. (George Peabody College)
Associate Professor (1974).

LEWIS, EDWARD H., M.A. (University of Minnesota)
Associate Professor Emeritus in Engineering (1969).

LIPSCOMB, RALPH W., M.S.
Associate Professor Emeritus, IFAS, North Florida Experimental Station Marianna Unit (1970 .

LOFTEN, WILLIAM TRAVIS, M.A.E.
Associate Professor Emeritus of Agricultural and Extension Education, IFAS (1975..

LORZ, ALBERT P., Ph.D. (University of Virginia)
Professor Emeritus, IFAS, Vegetable Crops (1972).

LUNDY, HOSEA WILLIA, B.S.A.
Associate Professor Emeritus (Associate Agronomist), Agricultural Research Center, Live Oak, IFAS (1974).

MACLACHLAN, EMILY STEVENS, M.A.
Assistant Professor of Social Sciences and Sociology (1975).

MALONEY, FRANK E., J.D. (University of Florida)
Dean Emeritus and Professor in Law (1973).

MARZKE, FREDERICK OTTO, Ph.D. (Michigan State University)
Professor (Entomologist), IFAS, USDA, Insect Attractant Behavior Research Lab (1975).

MARTINSON, EARL P., M.A.
Professor Emeritus of Industrial and Systems Engineering (1964).

MASE, DARREL J., Ph.D. (Columbia University)
Dean Emeritus of Health Related Professions (1971).

MATHIS, BENJAMIN L., M.A.
Assistant to the Vice President for Student Affairs (1976).

MAUDERLI, MAX O., Ph.D. (Univ. of Pennsylvania)
Professor Emeritus (1974).

MCCULLARS, FORREST NOBLE, B.S.A.
County Extension Director-Agriculture (II), Indian River (1975).

MCDONALD, ELLEN M., M.A.
Instructor, P.K. Yonge Laboratory School (1975).

MCELWEE, EDGAR W., Ph.D. (Ohio State University)
Professor Emeritus (1973).

MCFADDEN, SAMUEL EDGAR, JR., Ph.D. (University of Virginia)
Assistant Professor (Assistant Ornamental Horticulturist), IFAS (1976).

MCFERRIN, JOHN BERRY, Ph.D. (University of North Carolina)
Professor Emeritus of Finance and Associate Dean, College of Business Administration (1976).

MCINTOSH, PLEASANT R., M.F.A.
Professor Emeritus of Art (1968).

MCLENDON, IDA R., Ph.D. (Ohio State University)
Associate Professor Emeritus of Education (1967).

MCMULLEN, KENNETH S., M.Ag.
Professor Emeritus, IFAS (1969).

MCPHERSON, WILLIAM KENNETH, M.S. (Iowa State University)
Professor Emeritus (Agricultural Economist), IFAS (1974).

MCQUITTY, JOHN V., Ph.D. (Kentucky)
Director Emeritus, Board of Examiners (1972).

MCSWINE, JOSEPHINE H., B.S.H.E. (Mississippi So. C.)
CED and Extension Agent I, RFUF (1967).

MEDLIN, QUENTIN, B.S.A.
County Extension Director (II), Citrus County (1974).

MEHLBERG, HENRY, Ph.D. (University of Lvov)
Graduate Research Professor, Philosophy and Physics (1975).

MEHRHOF, NORMAN R., M.Ag.
Professor Emeritus of Poultry Science; Poultry Husbandman Emeritus, Agricultural Experiment Station (1963).

MILES, GUY SIMPSON, Ph.D. (Vanderbilt University)
Associate Professor of English (1973).

MILLAR, JANE CARREE, M.A. (Ohio State University)
Assistant Professor of Physical Education (1976).

MILLER, JAMES CHARLES, B.S.
Extension Agent (II), Madison County (1974).

MIMS, BERNICE A., M.A.
Professor Emeritus, RFUF (1958).

MITCHELL, JEAN O., M.A.E.
Instructor, RFUF (1958).

MOORE, WILLIAM EDGAR, Ph.D. (Peabody College)
Professor Emeritus, University College, Comprehensive Logic (1972).

MORRIS, ALTON C., Ph.D. (University of North Carolina)
Professor Emeritus of English (1973).

MORRIS, CHARLES W., Ph.D. (Chicago)
Research Professor Emeritus, RFUF (1971).

MORSE, WALTER P., Ph.D. (University of Florida)
Associate Professor Emeritus of Math (1971).

MUEHLNER, FELIX, U.J.D. (Frederick William)
Professor Emeritus, RFUF (1969).

MULLER, ALBERT S., B.S.A. (Cornell University)
Associate In (1973).

MUMA, MARTIN H.
Professor (Entomologist), IFAS (1971).

MURPHEE, CLYDE ELWYN, D.P.A. (Harvard University)
Associate Professor Emeritus, Food and Resource Economics Department, IFAS (1975).

MYERS, FRANCIS C., M.A. (Harvard)
Assistant Professor Emeritus, RFUF (1971).

NEFF, THOMAS O'NEIL, M.S.E.
Associate Professor Emeritus of Mechanical Engineering (1975).

NELLER, JOSEPH R., Ph.D. (Rutgers University)
Soils Chemist Emeritus, Agricultural Experiment Station (1962).

NESMITH, JAMES. Ph.D. (North Carolina State University)
Associate Professor Emeritus, (Soil Specialist), IFAS (1976).

NETTLES, VICTOR FLEETWOOD, Ph.D. (Cornell University)
Professor Emeritus (Horticulturist), IFAS (1975).

NEWTON, TISSOT A., Ph.D. (Ohio State University)
Entomologist Emeritus, Agricultural Experiment Station (1964).

NIELAND, LOUIS T.
Professor Emeritus, RFUF (1956).

NICKELSON, WILLIAM R.D.
Assistant Professor Emeritus of Electrical Engineering (1971).

NOLAN, WILLIAM JOHN, Ph.D. (University of Michigan)
Professor of Chemical Engineering (1976).

NORMAN, OSCAR NEWTON
Assistant Professor, IFAS, NWS, AREC, Lakeland (1972).

NULTON, LUCY, M.A.
Instructor Emeritus P.K. Yonge Laboratory School (1973).

NUTTER, HAZEN EDWARD, M.A. (University of Florida)
Professor Emeritus of Education (1975).

O'CONNELL, STEPHEN CORNELIUS, J.D., LL.D. (Jacksonville University), D.ED. (Biscayne College), LL.D. (Notre Dame University)
President Emeritus (1973).

ODOM, ALBERT HILL, M.S.A.
County Extension Director (II), Jefferson County (1975).

OSBORN, GEORGE COLEMAN, Ph.D. (Indiana University)
Professor Emeritus of Social Sciences (1974).

OTTE, BURTON J., M.S. (Univ. of Florida)
Curator, RFUF (1962).

O'QUINN, CLARENCE FENTRESS
County Agent (II), IFAS, County Work (1972).

ORAS, ANTS
Professor Emeritus of English (1972).

ORMOND, WILLIAM NEWMAN, M.A. (University of Florida)
Associate Professor of English and Adviser (1966).

ORSENIGO, JOSEPH R., Ph.D. (Cornell University)
Professor Emeritus (Plant Physiologist), IFAS, Agricultural Research and Educational Center, Belle Glade (1976).

O'STEEN, ALVA W., M.S.
Professor Emeritus, IFAS (1969).

PAGE, RALPH E., Ph.D. (Syracuse University)
Professor and Dean Emeritus of Political Science, Arts & Sciences (1971).

PATTERSON, PAUL B., Ph.D. (Univ. of Florida)
Assistant Professor, RFUF (1963).

PAYNE, ANCIL N., Ph.D. (University of Illinois)
Professor of History (1970).

PEELER, RUTH B.
Instructor, Education, P.K. Yonge (1972).

PENNINGTON, CLARK W., C.E.
Professor Emeritus and Associate Professor of Mechanical Engineering (1970).

PERRY, FRANKLIN S., M.AG. (University of Florida)
Professor Emeritus (1974).

PETERSON, ERHART G., M.B.A., LL.B. (University of Florida)
Professor Emeritus of Accounting (1969).

PETTIS, AUBREY M., M.S.A.
Associate Professor Emeritus (Associate Agricultural Engineer), IFAS (1975).

PEYTON, FLOYD A., DSC (University of Michigan)
Professor (1974).

PHANEUF, VICTOR S., B.S.E.
Associate Professor Emeritus of Building Construction (1969).

PHILPOTT, FRANK, Ed.D. (New York University)
Assistant Professor Emeritus of Physical Education (1966).

PIERCE, EMORY L., Ph.D. (University of Florida)
Professor Emeritus of Biological Sciences (1970).

PIRENIAN, ZAREH M., M.S. (University of Florida)
Associate Professor Emeritus of Mathematics (1972).

PLATT, WILLIAM J., JR., M.S.A.
Professor Emeritus, IFAS (1968).

PRESCOTT, FORD L., M.E.
Professor Emeritus of Mechanical Engineering (1963).

PRICE, JOSEPH E., B.A.E.
Professor Emeritus of Social Sciences, Adviser (1968).

PRICE, THOMAS J.
Assistant Professor, RFUF (1966).

PRIDGEN, ILA R.
Assistant Professor, RFUF (1955).

PRYOR, ROBERT SHEPERD, B.S.
County Extension Director (III), Palm Beach County (1975).

PULLAN, VERONICA A.
Instructor, Education, P.K. Yonge Laboratory School (1972).

PURSER, STUART ROBERT, M.F.A.
Professor of Art (1976).

PYLES, THOMAS, Ph.D. (Johns Hopkins University)
Professor Emeritus of English (1972).

RAPPENECKER, CASPAR, Ph.D. (Cornell University)
Professor Emeritus of Geology (1976).

RAYMOND, WALTER, B. Arch.
Professor Emeritus of Architecture (1974).

REAVES, CLARENCE W., M.S.A.
Professor Emeritus of Dairy Science (1971).

REED, JOHN CLIFFORD, M.E. (Ohio State)
Professor Emeritus, Mechanical Engineering (1973).

REID, JOHN T., Ph.D. (Stanford University)
Associate Professor of Spanish (1974).

REITZ, J. WAYNE, Ph.D. (University of Wisconsin)
President Emeritus (1967).

REYNOLDS, MABEL M.
Associate Librarian, Catalog, College of Libraries (1971).

RHODEN, JAMES LLOYD, M.A. (University of Florida)
County Extension Director (III) (1972).

RICE, ROBERT J., M.A.
Assistant Professor of Journalism and Communications (1966).

RING, ALFRED A., Ph.D.
Professor Emeritus of Real Estate (1974).

ROSE, GILLIS NORMAN, B.S. (Murray State College, Kentucky)
Associate Professor Emeritus, Food and Resource Economics Department, IFAS (1976).

ROSENBERGER, STANLEY E., Ph.D. (University of Florida)
Professor Emeritus, Food and Resource Economics Department, IFAS (1975).

SADLER, SAMUEL GOULD, Ed.D. (University of Florida)
Associate Professor of Mathematics (1976).

SALT, ELLIS B., Ed.D. (New York University)
Professor Emeritus of Professional Physical Education (1967).

SANDERS, DORSEY A., D.V.M. (Kansas State College)
Professor Emeritus, IFAS (1968).

SASHOFF, STEPHEN P., M.S. (University of Pittsburgh)
Professor Emeritus of Electrical Engineering (1971).

SAWYER, EARL MORROW, Ph.D. (University of Florida)
Associate Professor Emeritus of Physics (1974).

SCHMIDT, DORIS T., M.A.
Professor Emeritus of Music (1966).

SCHOONMAKER, LUCAS W., B.S.E.E.
Associate Professor Emeritus of Electrical Engineering

SCHUMACHER, A.S., Ph.D. (Western Reserve U.)
Professor Emeritus of Clinical Psychology and Psychology (1976).

SCHWARTZ, FRANK LEROY, Ph.D. (University of Michigan)
Professor Emeritus, Mechanical Engineering (1972).

SCHWEYER, HERBERT ENGLISH, Ph.D. (Columbia University)
Professor of Chemical Engineering (1977).

SEABERG, LILLIAN MARIE, M.A.
Associate Librarian, Reference and Bibliography (1973).

SHARPE, RALPH HAROLD, M.S. (Texas A&M University)
Professor Emeritus of Fruit Crops (Horticulturist), IFAS (1975).

SHECKLES, MARY W., Ed.D. (Columbia University)
Associate Professor Emeritus, Education (1972).

SHIELDS, MURRAY W., Ph.D. (University of Washington)
Professor Emeritus of Economics (1969).

SHOEMAKER, JAMES S., Ph.D. (University of Minnesota)
Professor of Food Science Emeritus and Horticulturist Emeritus, Agricultural Experiment Station (1966).

SILK, ERNEST S., M.S.
Assistant Professor Emeritus of Physical Science (1973).

SIMANTON, WILLIAM ALDRICH, Ph.D. (Iowa State University)
Professor Emeritus, Agricultural Research and Education Center, Lake Alfred, IFAS (1973).

SIMONS, JOSEPH H., Ph.D. (University of California)
Professor Emeritus of Chemical Engineering (1967).

SITES, JOHN WILBUR, Ph.D. (Ohio State University)
Professor (Horticulturist) and Dean for Research Emeritus, IFAS (1976).

SKELLETT, ALBERT M., Ph.D. (Princeton University)
Professor Emeritus of Electrical Engineering (1969).

SMALL, KENNETH
Director Emeritus, WRUF AM-FM (1974).

SMALLWOOD, MARK, M.S.E. (University of Florida)
Assistant Professor Emeritus of Electrical Engineering (1973).

SMITH, CARROLL N., Ph.D. (George Washington University)
Professor Emeritus of Entomology and Director, USDA Insect Attractants Behavior and Basic Biology Research Laboratory (1970).

SMITH, CHARLES B., Ph.D. (University of Wisconsin)
Professor Emeritus of Math (1968).

SMITH, DOROTHY MARY, M.Ed.
Professor and Dean Emeritus, College of Nursing (1973).

SMITH, EDWARD FRANK, E.E. (University of Florida)
Associate Professor Emeritus of Electrical Engineering (1975).

SMITH, FREDERICK B., Ph.D. (Iowa State University)
Professor of Soils Emeritus and Microbiologist Emeritus, Agricultural Experiment Station (1967).

SMITH, RALPH LESLIE, M.S. (Purdue University)
Associate Professor Emeritus (Field Crop Management), IFAS, ARC, Jay (1975).

SMITH, T. LYNN, Ph.D. (University of Minnesota)
Professor Emeritus of Sociology (1974).

SMITH, WILLIAM WARD
Associate Professor, IFAS, Entomology and Nematology (1972).

SMITH, WINSTON O., Ph.D. (Purdue University)
Professor Emeritus of Mechanical Engineering (1968).

SPACHE, GEORGE D., Ph.D. (Rutgers University)
Professor Emeritus of English and Education (1969).

SPENCER, ERNEST L., Ph.D. (Rutgers University)
Soils Chemist Emeritus and Head Gulf Coast Experiment Station (1968).

SPIVEY, HERMAN EVERETTE, Ph.D. (Univ. of North Carolina)
Professor Emeritus of English (1974).

SPURLOCK, ALVIN HAROLD, M.S.A. (University of Florida)
Professor Emeritus, Food and Resource Economics Department, IFAS (1973).

STANLEY, DENNIS K., M.A.E. (Pennsylvania State University)
Dean Emeritus of the College of Physical Education, Health, and Recreation and Professor of Professional Education (1976).

STARR, NATHAN C., Ph.D. (Harvard University)
Professor Emeritus of English and Humanities (1973).

STEARNS, THOMAS W., Ph.D. (University of Minnesota)
Professor Emeritus of Chemistry (1974).

STEVENS, BILLIE KNAPP, M.A.
Professor Emeritus of Professional Physical Education (1976).

STEVENS, GRACE A., M.A. (Columbia U. Teachers C.)
Instructor, RFUF (1950).

STOCKSTILL, ROY E., B.S.
Assistant Professor Emeritus, Engineering, Engineering Graphics.

STORER, MORRIS B., Ph.D. (Harvard)
Professor Emeritus of Humanities (1973).

STOVER, LOREN H.
Assistant in Horticulture Emeritus, Watermelon and Grape Investigations Laboratory (1965).

STRYKER, PHILIP DAVID, Ph.D. (Northwestern University)
Professor Emeritus of English (1976).

SVARLIEN, OSCAR, Ph.D. (University of North Carolina)
Professor Emeritus of Political Science (1976).

SWANSON, DANIEL C., Ph.D. (Cornell University)
Professor Emeritus of Physics (1971).

SWANSON, LEONARD E., D.V.M. (Ohio State University)
Professor Emeritus, IFAS (1967).

SWETT, MANETTE, M.A.
Instructor Emeritus, P.K. Yonge Laboratory School (1976).

SWINFORD, KENNETH R., Ph.D. (University of Michigan)
Professor Emeritus (1975).

TAMS, MADGE PENTON, B.A. in L.S.
Librarian, Reference and Bibliography (1973).

TELLER, MORTON HERMAN, M.A.E.
Assistant Professor Emeritus of Physics (1974).

THOMASON, OLIVER BRUCE, Ph.D. (Penn. State University)
Professor Emeritus of Rehabilitation Counseling (1975).

THOMPSON, ETHEL P., B.S. (Murray State College)
Home Economics Agent II (1973).

THOMPSON, L.G., JR., Ph.D. (Iowa State University)
Professor of Soil science (1973).

THOMPSON, WILLIAM L., B.S.
Entomologist Emeritus, Citrus Station (1962).

THORNTON, GEORGE, Ph.D. (Ohio State University)
Professor Emeritus, IFAS (1971).

TIFFIN, WILLIAM TRUITT, M.S.M.E.
Professor Emeritus of Materials Science and Engineering (1973).

TISSOT, ARCHIE N., Ph.D. (Ohio State)
Entomologist Emeritus, Agricultural Experiment Station (1964).

TONER, RAYMOND J., M.A.
Assistant CLAS Director (1975).

TORRACA, PASQUALE MARIO
Professor Emeritus, Department of Architecture (1964).

TOWNSEND, RUTH O., R.N. (St. Vincents Hospital)
Senior Research Assistant Emeritus, IFAS (1969).

TOWNSEND, THOMAS RALPH, M.AG.
County Extension Director-Agricultural (III), Volusia County (1976).

TUNISON, PAUL B., M.ED. (University of Florida)
Assistant Professor Emeritus of Physical Science (1973).

TURNER, GLOVER M., LL.B.
Head Emeritus, Department of Special Programs, Division of Continuing Education (1968).

TUTTLE, FRANK W., Ph.D. (University of Iowa)
Professor Emeritus of Economics (1967).

VALENTINE, MARION BULLARD, B.S.H.E.
Extension Home Economics Agent (III), Lake County (1976).

VOLK, GAYLORD MONROE, Ph.D. (University of Wisconsin)
Professor Emeritus (Soils Chemist), IFAS (1975).

VOSS, ELBERT, Ph.D. (University of Florida)
Professor Emeritus of Pharmacy (1973).

WALKER, SUE ROBERTS, B.S.
Associate Librarian, Acquisitions (1947-1976).

WALKER, JAMES HENRY, M.S.A.
Extension Agent-Soils & Agronomy (III), Escambia Co. (1976).

WALLACE, ALEXANDER P., Ph.D. (University of Virginia)
Graduate Research Professor Emeritus of Mathematics (1973).

WALLACE, HOWARD K., Ph.D. (University of Florida)
Professor Emeritus, Arts & Sciences, Zoology (1972).

WALLACE, MAXWELL JOSEPH, Ph.D. (Cornell University)
Associate Professor Emeritus of French (1975).

WALSH, HELEN, B.S. (Mississippi State University)
Associate in Obstetrics and Gynecology (1973).

WARREN, JESSIE ALMA, M.A. in L.S.
Assistant Professor Emeritus (Assistant Communications Specialist), IFAS (1976).

WATKINS, JOHN V., M.S.A.
Professor Emeritus of Ornamental Horticulture (1969).

WATKINS, MARSHALL OWEN, D.P.A. (Harvard University)
Dean Emeritus, Division of Continuing Education and Dean Emeritus for Extension Services, IFAS (1969).

WATKINS, MAUD
Instructor, RFUF.

WATSON, JAMES N., B.S. (University of Florida)
County Agent III (1975).

WEBER, GEORGE F., Ph.D. (University of Wisconsin)
Professor Emeritus of Plant Pathology (1964).

WEBER, IRVING L.
Professor Emeritus of Sociology (1971).

WEIL, JOSPEH, D.Sc. (Jacksonville University)
Dean Emeritus, College of Engineering (1966).

WEIMER, RAE O.
Professor and Dean Emeritus, College of Journalism and Communications (1968).

WELLS, THOMAS N., B.S.E.E. (Rose Polytechnic Institute)
Business Manager Emeritus (1970).

WENZEL, FREDERICK WILLIAM, JR., Ph.D. (University of Massachusetts)
Professor Emeritus, Agricultural Research and Education Center, Lake Alfred, IFAS (1973).

WERSHOW, IRVING ROBERT, Ph.D. (Yale University)
Professor Emeritus of Spanish (1976).

WEST, STANLEY L., LL.B., B.S. in L.S.
Director of Libraries Emeritus and Professor of Library Science Emeritus (1967).

WHITE, BARBARA CRITTENDEN, M.A. (New York University)
Chairman and Professor, Department of Physical Therapy (1973).

WHITE, JOSEPH B., Ph.D. (Peabody College)
Dean Emeritus, Education (1972).

WHITNER, BENJAMIN F., Jr., B.S.A.
Assistant Horticulturist Emeritus, Central Florida Experimental Station (1967).

WILCOX, DONALD B., M.S.M.E. (Georgia Tech.)
Professor Emeritus of Industrial and Systems Engineering (1975).

WILGUS, ALVA C., Ph.D. (University of Wisconsin)
Professor Emeritus of History and Director Emeritus, Carribbean Conferences (1967).

WILLIAMS, HERMAN BARNES, B.M.E.
Associate Professor Emeritus, Engineering Graphics (1972).

WILLIAMS, IZOLA F., M.S. (University of Tennessee)
Associate Professor and Chairman (1973).

WILLIAMS, MARGARET RUTH, M.A. (Michigan State University)
Professor Emeritus of Medical Technology (1974).

WILLIAMSON, HERBERT DUFF, M.C.E.
Professor Emeritus of Building Construction (1975).

WILSON, JOHN W., D.Sc. (Harvard)
Professor Emeritus, RFUF (1966)

WING, ALEXANDER HOLBROOK, Ph.D. (Columbia Univ.)
Professor of Electrical Engineering (1976).

WINSOR, HERBERT WILLIAMS
Assistant Professor, IFAS, Soil Science (1972).

WISE, JACOB HOOPER, Ph.D. (Peabody College)
Chairman Emeritus of Comprehensive Courses: Reading, Speaking, and Writing, and Professor Emeritus of English (1964).

WOLFE, HERBERT S., Ph.D. (University of Chicago)
Professor Emeritus of Fruit Crops, IFAS, RFUF (1964).

WOLFENBARGER, DANIEL OTIS, Ph.D. (Cornell University)
Professor Emeritus, Entomologist, IFAS, Agricultural Research and Educational Center, Homestead (1974).

YODER, LOWELL C., M.A.
Associate Professor Emeritus of Marketing (1967).

YOUNG, CANNING K.M., M.A.F.A.
Professor Emeritus of Architecture (1973).

YOUNG, GERTRUDE MARIAN, Ph.D.
Associate Professor of Education (1973).

YOUNG, THOMAS WILBUR, Ph.D. (Cornell University)
Professor (Horticulturist), IFAS, Agricultural Research and Education Center, Homestead (1976).

YOZGATLIOGLY, CUNEYT A., M.D.
University Psychiatrist.

ZETROUER, WALLACE, M.S.
Assistant Professor Emeritus of Electrical Engineering (1973).

LIST OF DECEASED STAFF—

ANDERSON, CHARLES LAMAR, M.S.A. (University of Florida)
Assistant Professor (Assistant Agricultural Economist) IFAS. (Deceased January, 1976).

BOLLES, ROBERT STEPHEN, Ed.D. (Columbia University)
Dean, College of Architecture and Fine Arts; Professor of Music. (Deceased June, 1974).

BRIDGES, CHARLES MARTIN, JR., Ed.D. (Univ. of Tennessee)
Professor of Education. (Deceased October, 1973).

BRUNET, JOSEPH, Ph.D. (Stanford University)
Professor Emeritus of Classical Languages. (Deceased September, 1973).

BULLARD, WILLIAM ROTCH, JR., Ph.D. (Harvard University)
Associate Professor of Anthropology, Chairman of the Department of Social Sciences and Associate Curator, Florida State Museum, (Deceased June, 1972).

BULLEN, RIPLEY PIERCE, M.E.
Curator Emeritus of Anthropology, Florida State Museum (Deceased December, 1976),

CALAWAY, WILSON, M.S. (University of Florida)
Assistant Professor Emeritus of Entomology. (Deceased December, 1971).

CARSON, ROBERT E., Ph.D. (University of Michigan)
Professor Emeritus of Humanities, Adviser. (Deceased November, 1971).

CATE, CHARLES A., Ed.D. (University of Texas)
Associate Professor of Education. (Deceased August, 1972).

COOPER, PHILIP, M.D. (Harvard Medical School)
Professor of Surgery, College of Medicine. (Deceased October, 1972).

CRAPS, JOHN ELLIS, Ph.D. (Johns Hopkins University)
Associate Professor Emeritus of German (Deceased, 1973).

CURREN, CHARLES H., D.Sc. (University of Montreal)
Professor, Agricultural Research Center, Leesburg. (Deceased January, 1972).

DAVIS, EDWARD ARNOLD, Ed.D. (University of Florida)
Assistant Professor of Education. (Deceased June, 1974).

DAVIS, ROBERT STANLEY, B.Arch.
Assistant Professor of Architecture. (Deceased May, 1971).

DRAGSTEDT LESTER, M.D. (Rush Medical College) Ph.D. (University of Chicago)
Research Professor Emeritus of Surgery and Professor Emeritus of Physiology (Deceased July, 1975).

EDDINS, ARTHUR H., Ph.D. (State University of Iowa)
Plant Pathologist Emeritus. (Deceased October, 1974).

EIBNER, JOHN R., B.S.
Director of Boosters.

GEORGE, THEODORE SAMUEL, Ph.D. (Duke University)
Professor Emeritus of Electrical Engineering (Deceased February, (1975).

FARRELL, WILBURN CARLOS, M.A.
County Extension Director (III), Alachua County. (Deceased September, 1974).

FOX, GEORGE GILLESPIE, Ph.D. (Princeton University)
Professor Emeritus of English. (Deceased April, 1972).

HILL, WALTER A., D.B.A. (U. Washington)
Associate Professor (Deceased June, 1974).

HUTTON, CURTIS EVANS, Ph.D. (Iowa State University)
Professor (Soil Chemist) and Center Director, IFAS, Agricultural Research Center, (Deceased May, 1972).

JONES, EDMUND RUFFIN, Ph.D. (University of Virginia)
Professor Emeritus of Zoology (Deceased September, 1976).

JOURARD, SIDNEY M., Ph.D. (Buffalo University)
Professor of Psychology, (Deceased December, 1974).

KELBERT, DAVID G., A.
Associate Horticulturist Emeritus, Gulf Coast Experimental Station (Deceased October, 1971).

KIDD, KENNETH P., Ph.D. (Peabody University)
Professor Emeritus of Secondary Education (Deceased February, 1975).

KINCAID, RANDALL RICH, Ph.D. (University of Missouri)
Professor Emeritus (Plant Pathologist), IFAS, AREC, Quincy, (Deceased November, 1971).

KINER, CLEVELAND D., M.E.D. (Pennsylvania State U.)
Assistant Professor and Director

KIRCHNER, WALTER, M.D. (Univ. of Louisville)
Clinical Associate Professor

KIRKLAND, E.C., Ph.D. (Northwestern University)
Professor of English. (Deceased October, 1972).

KORU, SADISABIT, M.A.
Associate Professor of Architecture (Deceased December, 1972).

LAUTER, WERNER M., Ph. D. (Griefswald)
Professor Emeritus of Pharmaceutical Chemistry (Deceased January, 1972).

LAVIRE, WILLIS A., Ed.D (University of Florida)
Associate Professor (Deceased March, 1974).

LUSKY, RAFAEL, Ph.D. (M.I.T.)
Assistant Professor of Economics (Deceased May, 1976).

MAUDERLI, MAX O., Ph.D. (University of Pennsylvania)
Professor Emeritus of German, (Deceased September, 1974).

MCCUBBIN, EARL N., Ph.D. (Cornell University)
Horticulturist Emeritus, Potato Investigations Laboratory. (Deceased January, 1970).

MELENY, HENRY E., M.D. (Columbia University)
Professor Emeritus of Medicine. (Deceased, 1971).

MICKELSON, JACK E., M.S. (San Jose State C.)
Assistant Climatologist

NICHELSON, JACK C., M.F.A. (Indiana Univ.)
Associate Professor

OPPELT, W. WALTER, M.D. (Harvard Medical School)
Professor of Medicine and Pharmacology and Director, Clinical Research Center, (Deceased February, 1974).

PEREZ, GUILLERMO JORGE, M.D. (University of Paris)
University Physician, Student Health Service; Assistant Professor of Pediatrics, College of Medicine (Deceased December, 1975).

POLLOCK, KENNETH CHARLES, Ph.D. (Northwestern University)
Associate Professor of Communicative Disorders and Speech. (Deceased August, 1974).

POWERS, LEONARD S., LL.M. (Duke University)
Professor of Law. (Deceased March, 1972).

PRUGH, BYRON JONATHAN, B.S.C.E.
Professor of Building Construction. (Deceased June, 1974).

REED, THOMAS MCKENNAN, Ph.D. (Pennsylvania State Univ.)
Professor of Chemical Engineering. (Deceased March, 1976).

ROBERTSON, CHARLES A., Litt. D. (University of the South)
Professor Emeritus of English (Deceased January 4, 1975).

ROSIER, NELSON EUGENE, M.S.E.E.
Associate Professor of Electrical Engineering. (Deceased February, 1972).

RUFF, WILLIAM, Ph.D. (Yale University)
Professor Emeritus of English. (Deceased September, 1974).

SHIELDS, MURRAY W., Ph.D. (Auburn University)
Professor of Economics. (Deceased January, 1976).

SLATER, JOHN C., Ph.D. (Harvard University)
Graduate Research Professor Emeritus of Physics & Chemistry (Deceased July, 1976).

SMITH, FRANCES SHAVER, M.A.
Associate Librarian, Catalog (Deceased October, 1974).

STAKELY, JAMES OWEN, B.S. Arch.
Associate Professor of Building Construction. (Deceased February, 1974).

STANLEY, ROBERT GREENBLATT, Ph.D. (University of California)
Professor (Forest Physiologist), IFAS. (Deceased April, 1974).

SZINAI, STEPHEN SLOMO, Ph.D. (Hebrew Univ. of Jerusalem)
Professor of Pharmaceutical Chemistry (Deceased January 1976).

TOWERS, DOROTHY AGNES, B.S.
Extension Home Economics Agent (II), Dade County, (Deceased November, 1973).

WALCZAK, LOUISE J., Ph.D. (Univ. of Illinois)
Assistant Professor

WEST, ERDMAN, M.S.
Professor Emeritus of Botany and Mycologist Emeritus, Agriculture Experiment Station. (Deceased, 1965).

WESTGATE, PHILIP J., Ph.D. (Cornell University)
Professor Emeritus, IFAS, Central Florida Station. (Deceased June, 1974).

WILLIAMSON, ROBERT C., Ph.D. (University of Wisconsin)
Professor Emeritus of Physics. (Deceased September, 1972).

WILSON, JOHN W., SC.D. (Harvard University)
Entomologist Emeritus, Central Florida Experimental Station. (Deceased June, 1974).

WOLFF, GEORGE ELLIOTT, Ph.D. (Univ. of North Carolina)
Professor of Social Sciences, Advisor. (Deceased March, 1973).

WOLFORD, RICHARD WILSON, M.A. (Duke University)
Associate Professor of Management. (Deceased June, 1974).

ZIEGLER, LOUIS WILLIAM, Ph.D. (University of Florida)
Professor of Fruit Crops, IFAS (1976).

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